GARDEN-AIRE SLIDING PATIO DOOR

INSTALLATION INSTRUCTIONS

For 4-wide frame assembled units

READ THESE INSTRUCTIONS COMPLETELY BEFORE STARTING ANY INSTALLATION

⚠️ CAUTION

Lead-based paint may be present in older homes, and the removal of windows & doors may cause this paint to be disturbed. In order to minimize exposure to lead-based paint dust, please consult www.epa.gov/lead for more information.
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### NOTICE

Failure to install and maintain our product according to these instructions will void any warranty, written or implied. The installer is responsible for consulting the contractor, structural engineer, architect, or consumer, for proper installation according to local codes and/or ordinances.

### △ WARNING

For safety a minimum of 3 people are needed for installation

### △ CAUTION

Some codes require the use of pressure treated lumber to line rough openings. Corrosion resistant materials, such as stainless steel or hot-dip galvanized steel, must be used for fasteners and anchors having direct contact with pressure treated lumber.

### △ WARNING

Proper Eye and Hearing Protection must always be worn when installing, removing or performing adjustments to Kolbe window and door products.

### △ CAUTION

Before applying sealant or adhesive pads, make sure the area to be sealed is clean, dry, and frost-free. Use color-matching or transparent sealant. Photos show contrasting sealant for clarity and demonstration only. Use a dab of sealant behind any exterior-facing screws or nails.

### ITEM REQUIRED BY INSTALLER

- Hearing protection device
- Sealant
- Level
- Hammer
- Phillips head screwdriver
- Standard screwdriver
- Fiberglass insulation
- Power drill and 3/32" (2mm), 7/64" (3mm), 9/64" (4mm) and 3/16" (5mm) drill bits
- Closed cell foam backer rod in 1/2" (13mm) diameter and 1" (25mm) diameter
- 4d finishing nails or 3/16" x 1-1/2" (5mm x 38mm) staples for panel bumper

- 3/4" (19mm) brad nails for rollform cladding
- For temporary nailing through the nailing fin:
  - 1-1/2" (38mm) or longer galvanized roofing nails

For installation technique 1:

- Kolbe installation clips
- #8 x 3/4" (19mm) flat head screws
- #8 x 1-3/4" (44mm) flat head screws or 8d common nails

For installation technique 2:

- #10 x 2-1/2" (64mm) flat head screws
- #8 x 3" (76mm) flat head screws

### ITEMS PROVIDED BY KOLBE

- Head Jamb - 45° angle on both ends (Qty-1)
- Side Jamb - 45° angle on top (Qty-2)
- Sill (Qty-1)
- #10 x 1-3/4" Phillips Flat Head screw SMS 18-8SS (Qty-8) for securing sash retainer bracket to head jamb

- #8 x 5/8" Phillips Pan Head TEK 18-8SS (Qty-10) for attaching stationary sill filler to sill (5 for each panel)

- #6 x 1" Phillips Pan Head SMS 18-8SS (Qty-14) for attaching active panel paring stop base to head jamb

- Panel Adjustment Caps (Qty-4)

- Panel Bumper (Qty-2)
  Length: 4-3/4"

- Head Jamb Interior Stop
  - Width for 10-0 unit: 115-7/32"
  - Width for 12-0 unit: 139-7/32"
  - Width for 16-0 unit: 187-7/32"

- *only used for Heritage & Classic units*
These instructions are for standard and K-Force (impact) rated units. 4-wide units have fixed/active/active/fixed operation (center panels move). The units will typically be installed in either wood or concrete/masonry walls and the rough opening must be lined with a 1-1/2" (38mm) thick wood buck. Contact your Kolbe window & door supplier for information on other wall conditions. Visit www.kolbe-kolbe.com for additional information. For simplicity, only extruded aluminum units are shown in pictures throughout the instructions.

**PREPARE ROUGH OPENING:**
1. The material/lumber quality and the fasteners must be structurally adequate for design load requirements.
2. Typically, the rough opening should be 1/2" (13mm) wider and 1/2" (13mm) higher than the outside measurement of the door frame. Masonry openings should be 1/2" (13mm) wider and 1/4" (6mm) higher than the nosing/exterior casing.
3. The rough opening must be plumb, square, level and in plane.
4. Individual construction members should not be twisted.
5. The floor beneath the unit must be solid and level for proper unit operation.

**Components for Optional Screen**
- #6 x 1-1/4" Phillips Flat Head TEK 410SS (Qty-10)
  For securing screen astragal to screen
- #6 x 5/8" Phillips Pan Head SMS 18-8SS (Qty-2)
  for securing L bracket to top or bottom of screen track
- L Bracket for Screen (Qty-2)
- Screen Astragal
  Height for 6-8 unit: 80" 
  Height for 80 unit: 96"
  Remod Screen Astragal
  Height for 6-6  unit: 77-1/2"
Determine which stationary panel and sill filler is a right and which is a left
Dust block placement on the sill filler will determine if it is a left or a right. When the sill filler is installed in the stationary panel, the dust block should be on the same side of the panel as the interlock. Dry fit the sill filler into the bottom of the stationary panel now. Repeat for other stationary panel.

**Attach sill filler to stationary panel**
See Fig. 1. Apply a 3/16” (5mm) diameter bead of sealant on the top of the sidelite sill filler along the entire length as shown in figure 12. Properly insert the stationary panel sill filler into the stationary panel bottom and secure it with the provided #8 x 1-1/4” (32mm) Phillips pan head screws through the pre-drilled holes. Repeat for other stationary panel.

Set the stationary panels aside until stationary panel installation.

If you have a Heritage (wood) or Classic (rollform clad) unit go to the Stationary Panel Installation section now.

**SELECT INSTALLATION TECHNIQUE**
These techniques are general guidelines only, and may not be appropriate for all performance requirements. Use the Installation Anchor Calculator on our website to help determine whether to use Technique #1 - Installation Clips or Technique #2 - Screwing Through the Frame. Kolbe recommends using installation clips for units with exterior trim, and units in high wind pressure locations.

If using installation clips, fasten the clips to the frame head and sides now. Use two #8 x 3/4” (19mm) flat head screws (provided by other) per clip and follow the spacing determined by the Installation Anchor Calculator. For more information, see the instructions provided with your Kolbe installation clips.

**SEALANT AND FLASHING**
Kolbe recommends following ASTM E 2112 guidelines for sealing and flashing exterior doors. Maintain a gap of at least 1/4” (6mm) between the door frame and the rough opening structure. Create a proper seal between the door and the building exterior. For more details, see our pamphlets Sealant Information and Flashing Information. These publications are available from your Kolbe Window & Door supplier or visit www.kolbe-kolbe.com to download a copy.

Units with brickmould to be field-applied and units without casing have a nailing fin applied. Nailing fins are optional on units with factory-applied brickmould. Both are shown.

See Fig. 2 & 3. Apply two 3/16” (5mm) beads of sealant on the head and sides of the unit on the backside of the nailing fin or brickmould as shown in the pictures below.
Apply sealant to rough opening sill
See Fig. 4. Run two 3/8" (10mm) beads of sealant across the width of the subfloor and up each side a minimum of 12" allowing the sealant to pool in the corners. Run the first bead 1-3/8" (35mm) in from the exterior face of the wall and the second head 2" in from the first bead.

If using screw through the frame installation, skip to the Install unit in opening by screwing through the frame section now.

INSTALL UNIT IN OPENING USING INSTALLATION CLIPS (RECOMMENDED METHOD)

Place unit in rough opening
From the exterior, tilt the unit, sill first into the rough opening. Center the unit and press the brickmould or nailing fin against the sheathing.

Temporary fastening for units with Nailing Fin (units without nailing fin, skip to checking for square section)
See Fig. 5. Tack the unit in place using one 1-1/2" (38mm) or longer galvanized roofing nails (provided by other) in the first pre-punched hole from each corner/end of the nailing fin to tack unit in place. Plumb, level and square unit in opening (see checking for square), then use 1-1/2" roofing nails in every third hole (approximately 10-1/2" (267mm) on center) along the head and sides. Do not drive the nail head in too far, as doing so could compress and warp the nailing fin.

Checking for square
See Fig. 6. To check that the unit is square, measure both diagonals from the interior, the measurements must be within 1/16" (2mm) of each other. The height of the frame at the center must be the same as the height at each end. The margins around the door should be even. Add shims if necessary to square the unit in the opening.

Shimming
See Fig. 6. At a minimum shims should be placed along the head and side jambs at 4" (102mm) from the corners/ends and every 12" (203mm) between. When using installation clips one shim should be placed above each installation clip between the frame and rough opening. Shimming ensures correct margins, parallel jambs, a level unit, and proper operation. Do not bow the jambs by over shimming.

CAUTION
Over-tightening installation clips may distort the frame components and break the sealant joints.
See Fig. 7, previous page. Place a shim between the frame and rough opening above each installation clip to prevent bowing. Starting with an interior upper corner, bend clips around the rough opening frame and fasten using one \#8 x 1-3/4" (44mm) flat head screw or two 8d common nails (provided by other). Continue around the perimeter, making sure the jambs are straight and the unit is square.

**INSTALL UNIT IN OPENING BY SCREWING THROUGH THE FRAME (ALTERNATE METHOD)**

**Place unit in rough opening**
From the exterior, tilt the unit, sill first into the rough opening. Center the unit and press the brickmould or nailing fin against the sheathing.

**Temporary fastening for units with Nailing Fin (units without nailing fin, skip to checking for square section)**
See Fig. 5, previous page. Tack the unit in place using one 1-1/2" (38mm) or longer galvanized roofing nails (provided by other) in the first pre-punched hole from each corner/end of the nailing fin to tack unit in place. Plumb, level and square unit in opening, then use 1-1/2" roofing nails in every third hole (approximately 10-1/2" (267mm) on center) along the head and sides. Do not drive the nail head in too far, as doing so could compress and warp the nailing fin.

**Checking for square**
See Fig. 6, previous page. To check that the unit is square, measure both diagonals from the interior, the measurements must be within 1/16" (2mm) of each other. The height of the frame at the center must be the same as the height at each end. The margins around the door should be even. Add shims if necessary to square the unit in the opening.

**Shimming**
See fig. 6, previous page. At a minimum shims should be placed along the head and side jambs at 4" (102mm) from the corners/ends and every 12" (203mm) between. When using screw through the frame installation one shim should be placed behind each marked screw location between the frame and rough opening. Shimming ensures correct margins, parallel jambs, a level unit, and proper operation. Do not bow the jambs by over shimming.

**Securing the side jambs**
See Fig. 8. The side jambs must be screwed through the frame in back of the parting stop, towards the interior of the unit. From the interior edge of the parting stop kerf on each side jamb, measure 3/8" (10mm) towards the interior and 8" (203mm) from the top and bottom corners to mark screw locations. Mark additional locations at the spacing required by the Installation Anchor Calculator.

Install shims between the unit and the rough opening framing behind each marked hole location. Double-check the unit to ensure the sill is straight and level. Plumb the side jambs and level the head jamb.

Continuing on the side jambs, drill pilot holes through the side jambs and into the shims and rough opening using a 9/64" (4mm) drill bit. Squeeze sealant into the holes and insert #10 x 2-1/2" (64mm) flat head screws (provided by other). Snug the head of each screw flush with the side jamb. The screw heads must be flush with the side jamb for proper active panel installation and performance.

*If you would like the screw heads concealed you will be required to place the screws between the parting stop kerfs. The screw heads must be flush with the side jamb for proper application of the wood parting stop.*

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![Fig. 8](image1.png)

![Fig. 9](image2.png)
Securing the head
See fig. 9, previous page. Install #8 x 3" (78mm) Flat Head screws (provided by other) in the retainer bracket kerf 4" in from each end and 12" on center. The longer screws will penetrate into the shims and rough opening framing and properly secure the unit.

STATIONARY PANEL INSTALLATION

Place sealant on sill
See Fig. 10. On the sill, apply 3/16" (5mm) diameter beads of sealant as wide as the width of the stationary panel as shown in figure 10 below. The bead towards the interior should have a 2" (51mm) void in the middle of it. Repeat for each stationary panel.

See Fig. 11. Apply a 3/16" (5mm) bead of sealant to the face of the dust block before installing the panel. Repeat sealant application on sill and dust block for other stationary panel.

Install stationary panel(s) in frame
See Fig. 12. To install the stationary panel, work from the interior. Place the panel so the interior leg of the sill filler is against the sliding panel roller track. The vinyl interlock should be at the center of the unit. Tilt the head of the panel into place, allowing it to rest against the screen channel. Slide the panel snug up against the side jamb. Apply pressure to the interior face of the panel to ensure the proper adherence of the sealant. There is enough sealant when you see squeeze out along the edges, especially the exterior and interlock edges. Smooth the sealant edge to create a good seal. Clean up excess sealant. The stationary panel can be held securely in place by wedging a 2 x 4 (51mm x 102mm) between the side of the panel and the side jamb. Be careful not to damage the panel or the frame.

See Fig. 13. Drill 3/32" (2mm) diameter pilot holes into the head jamb assembly at each head bracket hole location. Secure the stationary panel head bracket with the provided #8 x 1-1/4" (32mm) Phillips pan head screws, through the bracket into the pilot holes in the head jamb.

Heritage (wood) & Classic (rollform clad) units only:
Install the provided #8 x 3" (78mm) Phillips Flat Head screws through the outside of the frame and into the stationary panel. Place the screws evenly spaced on center down the side jambs. (Use 3 screws for a 6-6 or 6-8 unit height and 4 screws for a 8-0 unit height).
See Fig. 14. Apply the wood head parting stop using 4d finish nails or 3/16" x 1-1/2" (5mm x 38mm) staples (provided by other). Repeat for side jamb wood parting stops.

Apply sealant to the pre-drilled holes in the stationary panel sill filler. Using the provided #8 x 5/8" (44mm) Phillips pan head screws, fasten the sill filler to the sill. Remove the 2 x 4.

Both stationary panels must be installed before installing either active panel.

If you have a Heritage (wood) or Classic (rollform clad) unit go back to the select installation technique section now.

**FRAME PREPARATION FOR ACTIVE PANEL**

See Fig. 15. On the head between the wood parting stops on each end, run a bead of sealant in the parting stop kerfs. Place the parting stop base (weatherstrip side faces the interior) into the kerfs. Secure the parting stop base using the provided #6 x 1" (26mm) pan head screws to screw through the pre-drilled holes and into the head jamb. Attach the parting stop cap by snapping it onto the parting stop base as shown in figure 15.

Place the parting stop foam plug in the gap between the wood parting stop and metal parting stop above the interlock on the stationary panel. Repeat for other side.

**ACTIVE PANEL INSTALLATION**

Make sure the glazing bead side of the active panel faces the interior of the building. Center the active panel in front of the stationary panel with the interlock towards the side jamb. Tilt the active panel slightly and rest the rollers, located in the base, on the sill roller track. Place the sash retainer bracket in the groove at the top of the active panel. Tilt the head of the panel into place, allowing it to rest against the head parting stop. Slide the panel over to the active side. The vinyl interlock will now be at the center of the unit. Repeat for other active panel.

Position the sash retainer bracket in the groove on the head jamb. Slide the sash retainer bracket over so it is flush against the side jamb (there will be a gap on one side). Install the provided #10 x 1-3/4" (44mm) Phillips flat head screws into the pre-drilled holes. Fully open the active panels and install screws in the sash retainer bracket in the center of the unit.

See Fig. 16. Install the wood interior head stop by pressing it into the groove closest to the interior of the unit. Complete the panel installation by inserting the panel bumper between the head parting stop and the sash retainer bracket. Place one end of the panel bumper against the stationary side jamb. Secure the panel bumper in place using two 1-1/2" brad nails (provided by other).

4-wide units require two panel bumpers, one against each side jamb.
**ADJUSTMENTS**

See Fig. 17. The panel rollers may need to be adjusted for the unit to function properly. Slide the active panel open slightly, just enough to see the weatherstrip and side stop. Check for a consistent margin. To adjust the margin, remove the panel adjustment caps on the bottom panel rail. Insert a standard head screwdriver into the hole and turn. This will raise or lower one corner of the panel. Plug the holes in the active panel with the panel adjustment caps.

**SECURING THE SILL**

See Fig. 18 Short screws were installed in the sill to secure it for shipping. Remove these screws. Drill 3/16" (5mm) clearance holes through the existing holes in the oak interior sill drop and into the fiberglass sill, stopping short of the underlying floor. Then drill 7/64" (3mm) pilot holes through the clearance holes into the underlying floor. When anchoring into concrete, drill pilot holes the appropriate size for the fasteners (not supplied) used. Apply sealant to each screw hole to prevent penetration of water that may get on the sill. Install the provided #8 x 3" (76mm) Phillips flat head stainless steel screws into each hole.

**SCREEN DOOR BRACKET & ASTRAGAL INSTALLATION**

See Fig. 19. The L-shaped bracket must be fastened through the head screen track. Position the bracket at the center of the head track. Drill a 3/32" (2mm) pilot hole through the bracket, up into the head track. Fasten the bracket with the provided #6 x 5/8" (16mm) screw.

See Fig. 20. The astragal length should be the height of the screen minus 1" (25mm). Measure the astragal and cut it down if necessary. Traditionally, the astragal is placed on the less active side. Position the astragal on the edge of either screen panel with the bottom of the astragal 1/4" (6mm) up from the panel base. Secure the astragal in place using the provided #6 x 1-1/4" (32mm) self-taping screws. Space the screws 2" (51mm) down from the head and up from the base, and approximately every 12" (305mm) in between. Install the Patio Door Screen and the Screen Panel Strike according to the directions enclosed with each component.
COMPLETE THE EXTERIOR

See Fig. 21. A drip cap must be installed to direct water away from the door and lessen the chance of water seepage. Kolbe nailing fins have a built-in drip cap at the head; no additional drip cap is required. Units with brickmould and units without nailing fins need to have a drip cap applied. Seal the side edges of the drip cap to the door. Seal between the drip cap and the exterior sheathing. When using building paper or similar membrane to cover the exterior sheathing, also seal the material to the drip cap.

Apply a 3/16" (5mm) diameter bead of sealant at the point of contact between the sill trim nosing and the edge of the brickmould. Smooth the sealant edge to create a good seal. Secure a support block underneath the sill if needed.

CAUTION
A 1/4" (6mm) minimum gap between the door perimeter and framing material is required when the exterior facing is brick, stone, marble or concrete. This allows for movement or settling of the structure, which could effect unit operation. Span the gap with an appropriate sealant joint, using backer rod the length of the sill.

INSULATION & INTERIOR CASING/TRIM

Kolbe recommends installing fiberglass insulation in the gap between the door frame and the rough opening. Using a putty knife, loosely fill the entire depth of the gap with insulation. Apply interior casing and secure with finishing nails.

CAUTION
Over-packed insulation can lessen the insulating effectiveness and distort the frame, resulting in poor operation.

INTERIOR FINISHING

On bare wood interiors, use a top quality stain, sealer, and/or polyurethane varnish. On factory primed interiors, apply a quality top coat system. A separate and more detailed painting and finishing guide titled Preserving the Natural Beauty of Your Kolbe Windows and Doors is available.

CAUTION
Avoid getting finishing products on any vinyl components and weatherstripping.

HARDWARE INSTALLATION

Install the single point lock, optional foot bolt/secondary security lock and screen according to their directions.

MAINTENANCE TIPS & PROCEDURES

Inspect your Kolbe products periodically/yearly to see if the exterior sealants and/or finishes have any gaps, cracks, or signs of damage and deterioration. Caulk any cracks immediately with a high quality sealant to maintain the seal integrity and prevent air and water infiltration.

CAUTION
Do not pressure wash!

CLEANING

A yearly cleaning with a mild soap and sweet water (tap) solution is recommended for the panel and frames, then rinse. Clean glass with standard glass cleaner, keeping it from running onto the panel and frame and weatherstrip.

HARDWARE

Check all the fasteners, making sure all hardware is properly secured. The hardware and locks can be lubricated with a Teflon® or Teflon®/silicone spray.
INSULATING GLASS
Broken or fogged IG units that require reglazing or replacement should be referred to your Kolbe distributor.

⚠️ CAUTION
Kolbe's standard insulating glass has a LoE coating on surface 2. It does not match clear glass or other LoE products. Do-it-yourself reglazing or replacing without Kolbe's permission will void the product warranty.

RECYCLING
Care must be taken to properly recycle or dispose of old materials. Any recyclable materials should be separated from non-recyclable or hazardous materials. Please consult with local or state authorities regarding proper disposal of non-recyclable or hazardous materials.

Contact your Kolbe Window & Door supplier or visit us at www.kolbe-kolbe.com for further information.

THANK YOU FOR PURCHASING KOLBE PRODUCTS.

Kolbe & Kolbe Millwork Co, Inc. reserves the right to change specifications without notice.

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