

Owner's Manual

NanaWall CSW75

Folding Center Pivot Frameless System

This Owner's Manual contains instructions on the installation, operation, maintenance and warranty of the NanaWall CSW75 Folding Center Pivot Frameless System. This manual is to be used by the installer for installation and is to be kept by the Owner for reference. Replacement parts can be ordered directly through NanaWall Systems.

Installation Instructions

The installation of the CSW75 system requires a working knowledge and experience in the use of tools, equipment, and methods necessary for the installation of aluminum doors, storefronts, and/or partitions. This practice assumes a familiarity with preparing a proper and structurally sound opening, proper anchorage and assumes an understanding of the fundamentals of building construction that affect the installation of folding center pivot frameless systems. A crew of at least 2 persons is needed. These systems can be heavy. Use safe lifting techniques to avoid injury and product damage. **Highly recommended is using a NanaWall certified independent installer, if available, or, at least, an installer who has some experience in installing NanaWall systems.**

IMPORTANT: READ COMPLETE INSTRUCTIONS BEFORE BEGINNING INSTALLATION. INSTALL AS RECOMMENDED; OTHERWISE, THE UNIT MAY NOT FUNCTION PROPERLY AND ANY WARRANTY, WRITTEN OR IMPLIED, WILL BE VOID.

CAUTION:

As regulations governing the use of glazed windows, doors, storefronts and/or partitions vary widely, it is the responsibility of the building owner, architect, contractor or installer to insure that products selected conform to all applicable codes and regulations, including federal, state and local. Nana Wall Systems, Inc. can assume no obligation or responsibility whatsoever for failure of the building owner, architect, contractor or installer to comply with all applicable laws and ordinances and safety and building codes.

Please pay special attention to the thickness of glass. The NanaWall glass thickness for the panels is based

on the Glass Association of North America (GANA) recommended minimum glass thickness for fully tempered Interior butt glazed fixed glass panels.

The CSW75 system is shipped with all necessary components. However, **not included** are screws, bolts, shims, etc. to anchor the unit to the opening. The frame is shipped knocked down and needs to be assembled. Panels are usually pre-assembled with glass, ready to be attached to the installed frame. In most cases, all rollers, pivots, and lockings are pre-attached to the panels.

DESCRIPTION OF SUPPLIED PARTS

First look for an envelope in the shipment, which contains drawings of the elevation, the layout of the unit and an Installation Manual. This information together with the Custom Product Drawings provided by NanaWall at the time of order will be needed for a successful installation. As there is **no “standard” configuration** for CSW75 units, see Diagram 1 which shows the elevation and layout of a 5 panel unit to illustrate the installation process. Some items may not be applicable for your unit. Inspect the custom product drawing, indicating size, configuration and labeling of the unit ordered.

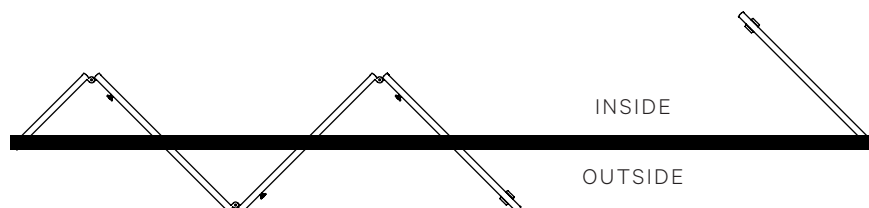
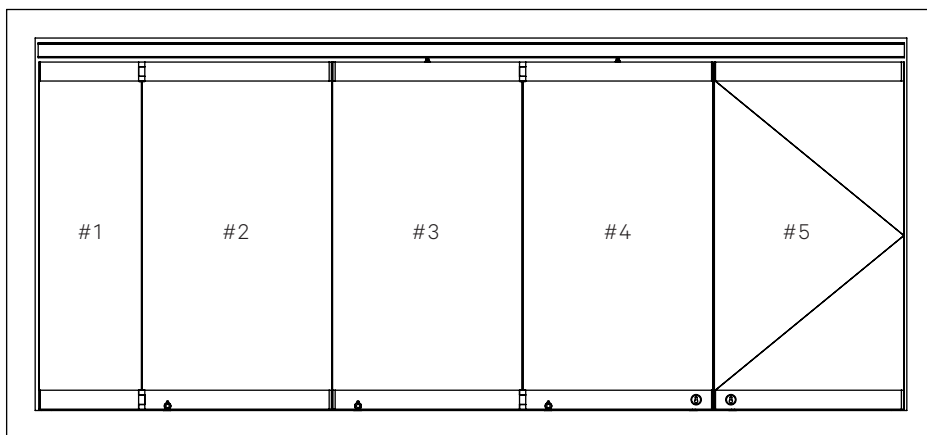
Check all parts carefully before assembly. Depending on the unit ordered, some of these parts may already be pre-installed on the panels. **Check that the sizes of the frame components and panels match with what was ordered.**

The elevation drawing shows the sequence and number of panels, which depends on the model ordered.

The drawing is always viewed from the outside, but the locking shown is what is on the inside.

The panels are usually pre-assembled with one upper carrier for each folding panel and with one specified locking. **The sequence of labeling of panels starts from the left looking from outside with the left most panel labeled Panel #1.**

DIAGRAM 1: EXAMPLE OF A 5 PANEL UNIT



- Panel #1: folding center pivot panel
- Panel #2: folding center pivot panel
- Panel #3: folding center pivot panel
- Panel #4: folding center pivot panel
- Panel #5: single/double action end panel with pivot box **or**
single/double action end panel with floor closer

Other components include:

- Push/pull handles, other handles or other hardware, as ordered may not be pre-attached to the panels and will be in the hardware box or shipped separately.
- The layout drawing of your unit shows the upper track components consisting of the head track in the opening, how they are labeled and how they have to be connected. The joints for the transitions are indicated and necessary connectors for connecting different upper track pieces are provided.
- The location of the removable head track (RHT) portion to insert the rollers on panels is indicated on the layout drawing.
- The overhead door closer will be in the hardware box and is not pre-attached to the top rail and has to be installed in the field after final adjustments were made.
- Specified floor sockets, pivot points and floor closers.

HANDLING OF COMPONENTS

1. Upon receipt, inspect the shipment to ensure it is in good condition.
2. Make sure that all components and hardware, which might be shipped separately do not get lost.
3. Store in a clean and dry location and protect against defacement or damage, especially to the edges of panels.

PREPARATION OF THE OPENING AND SUPPORT STRUCTURE ABOVE

Make rough opening width at least 1/2" wider than the outside unit frame width and rough opening height about 3/4" taller than the total unit height depending on how level the support structure above is. **See Sheet 2 of the Installation Manual.** It is important that the opening be the correct size.

Product performance that includes operation, depends on having the gap between the bottom of the panel and the top of the finish floor be maintained at 7 mm (1/4") and also the gap between the top of the panel and the bottom of the head track to be maintained at a nominal gap of 23 mm (7/8"). The running carriages can be adjusted, if needed. The finish floor needs to be absolutely level across the length of the opening.

The track length and layout have been supplied based on the configuration and sizes chosen and approved. Please refer to the layout drawing of your particular CSW75 project, to determine the correct location of the support structure (by others) and for the support of the head track in the plane of the opening. It is important that the system is properly supported at the top.

IMPORTANT: Any application should take into consideration the following:

1. As the CSW75 system is a top-hung system, it is essential that a proper substrate with the proper size and thickness be used for the support structure above in order to support the head track in the opening.
2. The structural integrity of the support structure is critical for proper operation. Vertical deflection of the header under full live and dead loads should be the lesser of L/720th of the span and 1/4". It should be designed to accommodate the total weight of the

- panels (i.e. system weight with 12 mm (1/2") tempered glass app. 8lb/ft²) in the opening and in the stacking area (unit in open position).
3. Structural support for lateral loads (both windload, if any, and other lateral force) must also be provided.
 4. The rough opening should be reasonably level, plumb and square at all points. There should be no unevenness or bowing. Make sure that the header is not tilted or twisted. There should be no bumps on the floor. The sides should be in the same vertical plane and not offset of each other. A transit/laser and other similar precise measuring equipment should be used. **YOU NEED TO ADJUST THE FLOOR AT THE OPENING TO MAKE IT ABSOLUTELY LEVEL.**
 5. See Sheet 10 – 14 of the Installation Manual for drawings of bottom door closer, pivot point and floor sockets to determine sizes of holes or slots that need to be made in the finish floor and substrate below. As there are different size floor sockets available, please verify the type of sockets for this order. If planning to cut into a post tensioned concrete for bottom door closers, pivot points and sockets, a structural engineer and architect has to be consulted.
 6. The finish floor will need to be perfectly level with no unevenness in the opening area. For the installation of bottom door closers, pivot points and floor sockets in concrete slabs and wood, the substrate should be a minimum of 4" thick, these components should be fully embedded into the concrete or wood and the clear edge distance in concrete or wood should be a minimum of 2".
 7. Floor sockets, pivot points and bottom door closers will need to be installed at precise locations after all panels are installed and final adjustments are made.
 8. For installations into heavy gage, all metal studs must have wood backing.
 9. **For better performance it is strongly recommended that all dead loads such as upper levels, roof, etc. be constructed and reasonable time for it has been allowed to settle before a unit is installed.**
- To avoid future problems, do not install your unit until the rough opening and the support structure have been correctly prepared.

UNIT INSTALLATION

- Sheet 1. Required Tools
- Sheet 2. Rough Opening and Unit Dimensions
- Sheet 3. Head Track in "kd" (knocked down) Condition
- Sheet 4. Assembly of Head Track
- Sheet 5. Head Track Shimming
- Sheet 6. Installation Sequence of Panels
- Sheet 7. Installation Sequence of Panels
- Sheet 8. Panel Alignment and Height Adjustment
- Sheet 9. Drilling Holes for Floor Sockets
- Sheet 10. Centered Pivot Point and Floor Closer Installation
- Sheet 11. Pivot Point Top Track for Single/Double Action End Panel Installation
- Sheet 12. Single/Double Action End Panel Installation
- Sheet 13. Offset Pivot Point and Floor Closer Installation
- Sheet 14. Offset Pivot Point Top Track and Floor Closer Installation
- Sheet 15. Installation of Profile Cylinder

A. FRAME ASSEMBLY AND INSTALLATION

Since there can be an infinite number of variations and configurations, it is not possible to have step by step specific instructions that will apply to all units installed. Below are general instructions that focus on the installation of a 5 panel unit as shown in Diagram 1. This may not exactly apply to your particular unit. Please refer to the Custom Product Drawings for your specific project.



The key to having a properly installed and operating CSW75 system is to install a perfectly level upper track at the correct height from the finish floor level.

Step A1

Look for the labels on the different upper track segments and set them on the floor as per the layout of the head track on the custom product drawings.

Step A2

Attach as many of the upper track pieces together that could be supported and installed easily as one piece. Use the connectors and set screws provided. **See Sheet 4 of the Installation Manual.** Make sure that the transitions between the track segments are perfectly aligned and smooth.

Step A3

The roller access head track section is a removable section in the head track (RHT). This section will need to be later removed when the panels are installed.

Step A4

The head track is pre-drilled in the factory with anchorage holes at spacing's of about 10" (250 mm) for 5/16" (8 mm) diameter screws or bolts. **See Sheet 3 of the Installation Manual.**

The correct fastener spacing in the support structure within the opening depends on substrate material, design windload pressures (if exterior) of project, panel height and other requirements of the project. **All anchoring details and requirements should be determined and verified by the project structural engineer.** Please pre-drill any additional anchorage holes as needed.

Use appropriate anchorage devices depending on the project lateral load requirements and adjacent substrate material and construction. If the factory pre-drilled holes are sufficient, then 8 mm (5/16") diameter screws can be used. Make sure they are corrosion resistant and that the screw head is small enough to fit inside the slot in the middle of the head track, otherwise it will interfere with the running carriages. Anchorage devices should penetrate (embedment) or hold sufficiently to the opening to withstand necessary lateral loading. Attention should also be made to the minimum edge distance that must be maintained for different substrates. Generally, for wood frame, minimum embedment is 2 1/2" and minimum edge distance is 3/4", for concrete minimum embedment is 1 1/4" min. and minimum edge distance is 2".

Step A5

For all anchorage options, set the assembled part of the upper track into the rough opening at the proper position relative to the support structure and the finish floor.

Step A6

Support the upper track temporarily in a safe manner.

Step A7

Place hard plastic horseshoe shims tightly at every fixing point between the upper track and the header. Anchor the head track with appropriate screws through the pre-drilled holes or as needed. **See Sheet 5 of the Installation Manual.**

IMPORTANT: ADJUST EACH ANCHORAGE POINT AS NEEDED TO MAKE THE UPPER TRACK ABSOLUTELY LEVEL AND PLUMB. USE A TRANSIT/LASER AND OTHER SIMILAR PRECISE MEASURING EQUIPMENT TO MAKE THESE DETERMINATIONS. MAKE SURE NO SHIMS ARE FORCED TO ENSURE THAT THE UPPER TRACK IS NOT BOWED OR TILTED.

Upper track segments must be joined such that they are even, tight and aligned perfectly. Otherwise, the running carriages may wear out prematurely, which will then not be covered by warranty. Placing shims at the meeting points of track segments may help in keeping the transition points even, even though there may not be anchorage holes at this point. See Sheet 5 of the Installation Manual.

Make sure that all surfaces of the upper track are clean and free of any debris, especially cuttings from drilled holes.

Do not attach anything from the side against the head track.



Do not drill any holes for sockets, pivot points, and floor closers, yet!

B. PANEL INSTALLATION FOR ALL FOLDING PANELS

As there can be many possible configurations, panel installation will vary with each unit. Below are guidelines for a 5 panel unit shown in **Diagram 1**. Determine the interior/exterior side of the panels and install them such that they are facing the correct direction. Please also refer to **E. PANEL INSTALLATION OF A SINGLE/DOUBLE ACTION END PANEL** after following the instructions in C and D.

Step B1

Check all the carriers on all the folding panels. **Make sure all the locking nuts are securely tight.** Do not make any adjustments on the carriers, yet.

Step B2

Before inserting the panels, remove the roller access head track section (RHT). **See Step 0 on Sheet 6 of the Installation Manual.** Hang 1st folding panel (Panel #4) by inserting the center carrier of this panel into the opening in the head track. Secure panel before you proceed with 2nd panel (Panel #3). Then hang 2nd panel the same way and line up the hinges with the 1st panel. Add the hinge pins to the hinges at the bottom and top. Secure hinge pin with the set screws from the side. Tighten set screws and then back it off a 1/4 turn. Afterwards add cover on top of the hinge pin.

Step B3

Install additional folding panels in the same manner.

Step B4

After you inserted all folding panels, secure them in the opening. Before you reinstall the removable head track, take the top pivot point for the half size panel (Panel #1) from the hardware box and slide it inside the top track. Now put the RHT back on and make sure that the joints are aligned perfectly. **See also Sheet 7 of the Installation Manual.**

Step B5

To install the half panel at the side (Panel #1), slide the top pivot point over to the side of the RHT. Check that the dimension from the edge of the top track to the center point of the axle is 44 mm (1 3/4"). Fix the pivot point in position. Line up the pivot point at the bottom with the pivot point at the top by using a transit/laser or other similar precise measuring equipment and mark the bottom point on the chalk line.

Now drill the appropriate size hole for the pivot point. If concrete, use a diamond core drill bit with the proper diameter size.

Step B6

Install the “half” panel by setting it on top of the bottom pivot point first and then attach it to the top pivot point by pushing up the bolt of the top pivot point and screwing it onto the shoe inside the top clamping profile. Before you tighten the bolt and nut, measure the horizontal reveal at the bottom and top and keep it consistent with the rest of the panels.

Step B7

Now you can attach the half panel (Panel #1) to the adjacent folding panel (Panel #2) by adding the hinge pin as described under Step B2.

IMPORTANT: DO NOT INSTALL ANY SINGLE/DOUBLE ACTION END PANELS, YET.



Do not drill any additional holes for sockets, pivot points and floor closers, yet!

C. GAPS AND ADJUSTMENT

After inserting all the folding panels, operate the unit and check the vertical and horizontal reveals. Check if all panels are vertically straight and if you left enough space for the single/double action end panel. **See Sheet 8 of the Installation Manual.** Between the folding panels there should be an even gap of 2 mm (about 1/16”). Any problems may be due to the head track not being absolutely level.

The horizontal spacing between the bottom of a panel and finish floor should be 7 mm (about 1/4”) consistently across the width of the opening and 23 mm (7/8”) at the top.

If the gaps are not correct, then adjust the upper track by removing or adding shims above the head track as needed. The upper track has to be perfectly level.

If there are still issues on the gap between panels and the gap at the bottom not being correct, then the running carriages can be adjusted. The carriages on the panels are normally set from the factory to have a gap of 23 mm (7/8”) from the bottom of the head track to the top of the top rail.

To adjust the height of the panels, use a 19 mm open jaw wrench from the side. Clamp on the flat part of the bolt that is located near the bottom of the roller with the 11 mm open jaw wrench and adjust the height.

Counter-clockwise rotation = less floor clearance; clockwise rotation = more floor clearance. **See Sheet 8 of the Installation Manual.**

After final adjustments make sure to really tighten down the nut.

After you adjusted all folding panels, measure the width for the single action end panel (non-sliding) again and make sure it fits into the opening.



Now you can start drilling holes for sockets! Do not install the single/double action end panel, yet!

D. SOCKETS

Holes in the floor for the sockets have to be made at exact precise spots. There is no second chance if the hole location is off. **See Sheet 9 of the Installation Manual.**

With a laser, find the center line of the head track on the floor along the length of the opening, and mark it with a chalk line. Close the unit such that the panels are in the correct closed positions. **Start with the panel**

on the opposite side of the single/double action end panel (Panel #2) and add blue masking tape underneath the approximate location of the locking bolt. Slowly and carefully engage the locking point until it touches the tape. The tip of the locking bolts should make a mark on the blue tape that would be the center point of the socket hole.

From the custom product drawings and the locking type on the panels, drill the appropriate size socket hole. If concrete, use i.e. a diamond core drill bit with the proper diameter size.

Slide the proper sockets into the holes. If necessary, use suitable material to fix them in place. Open the unit and close it again and make sure the locking mechanism lines up with the floor socket. Please proceed with the next hole (one hole at a time) and repeat the process described above for all folding panels.

E. PANEL INSTALLATION FOR SINGLE/ DOUBLE ACTION END PANELS (NON- SLIDING) CENTERED AND OFFSET INCLUDING PIVOT POINT AND FLOOR CLOSER INSTALLATION

Holes and slots in the floor for the pivot points and floor closers have to be made at exact precise spots. There is no second chance if the hole/slot location is off. **See Sheet 10-14 of the Installation Manual.**

Step E1

Start at the bottom and use the chalk line as a reference line. Measure the overall width of the panel and compare it with the dimension on the custom product drawing. To this dimension add 3/16" (4 mm) at each end to make sure the correct 3/16" (4 mm) gap between the panels and between the panel to the wall is maintained. Then the panel has to fit in the remaining opening.

Step E2

For the center pivot end panel (non-sliding) with pivot point, the dimension for the center of the pivot axle to the adjacent edge of the panel (end cap) should be 1 11/16" (43 mm) plus the additional 3/16" (4 mm) for the gap to the wall. Please check custom product drawing for swing direction (inside/outside). **See Sheet 10 of the Installation Manual.** This means a total of 1 7/8" (47 mm) to the edge of wall. Mark this dimension on the chalk line. If concrete, use a diamond core drill bit with 1 1/4" diameter. Install the pivot point and if necessary, use suitable material to fix it in place. Then install the top pivot axle into the top track. Start inserting the upper flush part into the top track, turn it a 1/4 counter clock wise, push it up higher and turn it another 1/4 clock wise. Before you fix the axle with the 2 set screws in place, please use a transit/laser or other similar precise measuring equipment to line up the center of the bottom pivot point with the center of the top axle. **See Sheet 11 of the Installation Manual.**

In preparation for the installation of this panel, take off the end cap and top cover on the inside. Screw the adjustable bracket onto the threaded bolt of the top axle and make sure that the set screw at the side is loose. Now you can install the panel by lifting the pivot axle, that is installed underneath the bottom of the panel, on top of the bottom pivot point. Line the top axle with bracket up with the shoe that is inserted into the top profile and connect both parts with one another. **See Sheet 12 of the Installation Manual.**

Before you finally tighten down all screws, make sure that all dimensions are set correct, the panel can be opened and closed with the right clearance and check if the panel is plumb and level. Then fix all screws in place and secure the top axle by fixing the set screw from the side. Afterwards put the top cover with end cap back on.

Step E3

For the offset pivot end panel (non-sliding) with pivot point, the dimension for the center of the pivot axle to the adjacent edge of the wall should be 1/16" (2 mm) and it should be offset to the chalk line by 2 1/16" (52 mm). Please check custom product drawing for swing direction (inside/outside). **See Sheet 13 and 14 of the Installation Manual.** Mark this point and if concrete, use a diamond core drill bit with 1 1/4" diameter. Install the bottom pivot point and if necessary, use suitable material to fix it in place. Then install the receiver box for the top axle by hanging it off on the side of the top track and fix it slightly with the 2 set screws. Use a transit/laser or other similar precise measuring equipment to line up the center of the bottom pivot point with the center of the top receiver box.

The 2 offset pivot brackets are installed on panel #5 already. When you start installing this panel, set the bottom pivot axle on top of the pivot point and line up the top bracket with the receiver box at the top. Take the top axle out of the accessory box and connect the bracket and the receiver box by sliding it in from underneath. Fix the top axle with the set screw from the side and add the cover on top of the hinge pin. Before you finally tighten down all screws, make sure that all dimensions are set correct, the panel can be opened and closed with the right clearance and check if the panel is plumb and level.

Step E4

For the center pivot end panel (non-sliding) with floor closer, the dimension for the center of the pivot axle of the floor closer to the adjacent wall should be 2 1/2" (64 mm). Please check custom product drawing for swing direction (inside/outside). **See Sheet 10 of the Installation Manual.** Mark this dimension on the chalk line. Then mark the dimensions of the box on the floor and if concrete, cut and chisel out the concrete to recess the floor closer into the floor.

Make sure that the full underside of the box rests on a flush and level surface and fix it temporarily into place. Then install the top pivot axle into the top track. Start inserting the upper flush part into the top track, turn it a 1/4 counter clock wise, push it up higher and turn it another 1/4 clock wise. Before you fix the axle with the 2 set screws in place, please use a transit/laser or other similar precise measuring equipment to line up the center of the axle of the floor closer with the center of the top axle. **See Sheet 11 of the Installation Manual.**

In preparation for the installation of this panel, take off the end cap and top cover on the inside. Screw the adjustable bracket onto the threaded bolt of the top axle and make sure that the set screw at the side is loose. Now you can install the panel by lifting the receiver shoe that is installed underneath the bottom of the panel, on top of the axle of the floor closer. Line the top axle with bracket up with the shoe that is inserted into the top profile and connect both parts with one another. **See Sheet 12 of the Installation Manual.**

Before you finally tighten down all screws, make sure that all dimensions are set correct, the panel can be opened and closed with the right clearance and check if the panel is plumb and level. Then fix all screws in place and secure the top axle by fixing the set screw from the side. Afterwards put the top cover with end cap back on.

After everything is installed and adjusted including the floor socket for the locking point of the pivot panel, use suitable material to fix the floor closer in place.

Step E5

For the offset pivot end panel (non-sliding) with floor closer, the dimension for the center of the pivot axle of the floor closer to the chalk line (CL of track) should be 2 1/16" (52 mm). The center point is then offset to the wall by 1/16" (2 mm). Please check custom product drawing for swing direction (inside/outside). **See Sheet 13 and 14 of the Installation Manual.** Mark this dimension on the

floor. Then mark the dimensions of the box on the floor too; if concrete, cut and chisel out the concrete to recess the floor closer into the floor. Position the box at the right location in relationship to the edge of the wall. Make sure that the full underside of the box rests on a flush and level surface and fix it **temporarily** into place. Then install the receiver box for the top axle by hanging it off on the side of the top track and fix it slightly with the 2 set screws. Use a transit/laser or other similar precise measuring equipment to line up the center of the bottom axle of the floor closer with the center of the top receiver box.

The 2 offset pivot brackets are installed on panel #5 already. When you start installing this panel, set the bottom pivot axle on top of the pivot axle of the floor closer and line up the top bracket with the receiver box at the top. Take the top axle out of the accessory box and connect the bracket and the receiver box by sliding it in from underneath. Fix the top axle with the set screw from the side and add the cover with screw. Before you finally tighten down all screws, make sure that all dimensions are set correct, the panel can be opened and closed with the right clearance and check if the panel is plumb and level.

After everything is installed and adjusted including the floor socket for the locking point of the pivot panel, use suitable material to finally fix the floor closer in place. Before you put on the cover for the floor closer, make sure to measure how much to cut off to make it fit with the edge of the wall.

F. FINAL STEPS

Step F1

Close and lock all panels into position. For proper operation, follow the instructions in the Operation section of this manual. Check that the system operates and functions properly.

Step F2

Attach handles and other hardware that have not been pre-attached. Attach the profile cylinder (if any) to the locking gear by inserting it into the lock hole and attaching the set screw through the screw hole on the gear located at the edge of the panel. Cut the set screw, if needed. **See Sheet 14 of the Installation Manual.**

Step F3

Correct any problems before you finish the trimming. Do not attach any trimming directly to the top track. Be sure that the removable head track piece can be accessed and removed if needed. The head track should not be subject to any loads from suspended ceilings, etc.

PROTECTION OF THE UNIT DURING THE CONSTRUCTION PHASE

It is important that during the construction phase the unit be kept closed, covered and protected from damage. During this phase, a unit is often subject to the most extreme conditions from all types of construction operations that can permanently damage and destroy it. A unit can be damaged by cement splatter, tar, paint, weld splatter, falling objects, construction dust, sand blasting, etc. All temptations to use the large opening of an installed system for easy ingress and egress by tradesmen should be resisted.

Operation And Maintenance Of Nanawall Products

OPERATION OF A NANAWALL CSW75 – FOLDING CENTER PIVOT FRAMELESS SYSTEM

For opening and closing the folding center pivot frameless system, please observe the special notes on the following pages in as far as they relate to your unit.



When operating the system similar to any other door, please do not place your fingers between the panels/pivot points. Be very careful when you operate the panels and avoid glass to glass contact between the panels!!

Only properly trained personnel should operate the unit.
No children should operate the unit.

Do not force the system if not operating properly. If you encounter any difficulties in operating the unit, please have it inspected by a NanaWall certified installer as soon as possible.

The correct sequence of opening and closing of panels is dependent on the configuration ordered. Panels must be opened and closed in the right order in a gentle manner.

Opening and Closing a Unit.

1. If available, please open the single/double action end panels, first.
2. Disengage all of the locking points on each folding panel. Operation of each type of lock as follows:
 - a. Profile Cylinder – turn with key or thumb turn.
 - b. Quick Release Lock – pull knob and lift up/down.

3. Now you can open the folding panels by slightly pushing against 2 adjacent panels from the front, where the hinge part with hinge pin is located in your direction. The panels fold together and you can push them gently from the side using both hands.
4. Note that there is a carrier at each upper center of a folding panel and no guide at the bottom that could prevent the panels from swaying. Do not move more than 4 panels at a time.
5. When you have a swing panel attached to a folding panel with carrier, make sure that you open the swing panel 180°, first and keep it in this position when you fold the panels to the side.
6. Do not force. Avoid any pendulum movements, otherwise the bottom rail could damage the floor.
7. If there are more panels stacking to one side or both sides (left/right with up to 4 panels), please be sure to handle the chain of panels with care and fold them to the correct side.
8. For closing, please proceed in reversed order as described above. To pull the panels from the stacked position, you will need to grasp the first panel by the edges with both hands as high as possible. Move evenly and keep panels as vertical as possible. Avoid any pendulum movements.
9. Make sure each folding panel is placed in its proper position in the opening and engage the locking point before moving the next panel. Do not place your fingers between the panels/ pivot points. Do not force any locking point.
10. For units with multiple panels folding to one side or both sides (left/right with up to 4 panels), make sure that each chain of panels is placed in its proper position in the opening and engage all locking points before moving the next chain of panels.

RECOMMENDED MAINTENANCE OF NANAWALL PRODUCTS

Some General Considerations on all Projects:

1. It is important that the product is properly installed. A poorly installed unit will not function properly. This will cause more abnormal force or stress on the components and will lead to premature failure. When operating the unit, the panels should generally be able to be moved easily by one person. When moving across joint locations of head track transitions, there should be no bumps, otherwise the carriers may prematurely wear out. All locking points should engage smoothly. There should be no rubbing on the floor and no binding. When the unit is closed, the horizontal reveal between panels and the head track and between panels and the floor should be consistent. Please have all problems corrected as soon as possible by a qualified technician or a NanaWall certified installer.
2. From time to time, due to building movement or settlement, a unit may need to be adjusted by a qualified technician or a NanaWall certified installer to compensate for any building change.
3. It is important that a unit is operated properly. Locking points should be gently opened and closed and not forced. Panels should be opened and closed in the proper manner and sequence. See the Operation section for proper operation.
4. Periodically check for worn or damaged components and replace as soon as possible. A unit with nonworking components will subject the other components to increased stress and lead to premature failure. A unit with worn or damaged components will compromise the performance level expected.
5. Remove debris and other foreign bodies which have accumulated in the head track and sockets immediately to prevent damaging the carriers and maintain proper locking. Clean and lubricate all movable parts and components as needed. Check brushes for proper seating and condition. Remove dust and any deposits from these brushes.
6. The finished aluminum or stainless steel surface needs periodic cleaning and maintenance. Its appearance may be marred by harsh chemicals, abuse or neglect. Frequency of cleaning depends on exposure and needs. For aluminum surfaces, generally warm soapy water should be sufficient. Stubborn stains and deposits may be removed with mineral spirits. Heavier accumulations can be removed with a mild solution of household detergent. For all surfaces, aggressive alkaline or acid cleaners should not be used. Excessive abrasive rubbing should be avoided. Sealants and weather stripping may be affected by strong organic solvents.
7. All hardware, hinges and handles should be periodically cleaned with a soft cloth and mild cleanser. Excessive abrasive rubbing should be avoided.
8. It is highly recommended that a maintenance/ service contract be entered with a NanaWall certified installer, who can clean, lubricate and inspect on a periodic basis.

MAINTENANCE CHECK LIST

Following recommended check list of Maintenance Notes to be carried out on a regular basis by a maintenance person:

- a. Clean upper track
- b. Check height adjustment and setting of each panel
- c. Check if all panel end caps are in place and fixed
- d. Check if all carriages can be moved easily
- e. Check if counter nuts on carriages are adequately fastened
- f. Check if hinges can be moved easily; lubricate if necessary
- g. Check if pin carriers in pivot panels are in the right position
- h. Ensure that the lower locks can be moved easily; lubricate if necessary
- i. Check if floor sockets, pivot points and door closers are adequately fastened to the floor
- j. Remove any dirt from the floor sockets, pivot points and bottom door closers
- k. Ensure that any lock and profile cylinder can be moved easily

GLASS INSTALLATION AND GLAZING

This section applies only if you need to install glass for any reason. Proper glass installation is critical, as, with the NanaWall Folding Center Pivot Frameless System, glass is a structural part of the panel.

Glass, with appropriate dimensions, thickness and specifications will be needed. Depending on the model, widths of frameless all glass panels may not be equal. Ask NanaWall for the glass dimensions. Please note that glass is required to be safety glass – either fully tempered or laminated as specified for a particular order. Check with all applicable codes and regulations.

Glass shall meet the current requirements of ASTM C 1306 “Standard Specifications for Flat Glass” for quality, thickness and dimensional tolerances. Tempered float glass shall meet the current requirements of ASTM C 1048 “Standard Specifications for Heat-Treated Flat Glass - Kind HS, Kind FT Coated and Uncoated Glass.” All tempered glass shall have a permanent logo, which signifies Safety Commission 16 CFR-1201 and the safety glass test requirements of ANSI Z 97.1 (current editions) or other equivalent safety standards.

Follow all proper applicable glass installation and glazing techniques as recommended in the Flat Glass Marketing Association (FGMA) “Glazing Manual” and “Sealant Manual”. Always use suction cups to shift glass within an opening. The panels would need to be removed from the opening to install the glass. Panels can be laid flat on sawhorses.

Please contact NanaWall before you replace a glass pane in order to get the right material and instructions to glaze the panel!

NanaWall Limited Warranty

NanaWall is pleased to provide the following product warranty for the owner of the property within which NanaWall products have been installed, subject to all terms and conditions stated herein.

TEN YEAR COVERAGE

Insulated Glass. The insulated glass provided by NanaWall is warranted to be free from a permanent material obstruction of vision due to a premature failure of the glass seal for 10 years from the date of delivery (“Delivery”). Exception: for zero by NanaWall, please see Five Year Coverage.

Powder Coat or Baked on Fluoropolymer Surface Finish of Aluminum Profiles. Powder coat or baked on fluoropolymer surface finish of aluminum profile is warranted to perform for a period of 10 years from Delivery as an Effective Surface Material (ESM). ESM means: (1) free from substantial cracking, chipping or peeling due to the deterioration of the finish, exclusive of mechanical damage; (2) free from chalking in excess of a numerical rating of 8 as per ASTM D 659; and (3) free from fading or color changes in excess of 5 NBS units as per ASTM D 2244. Because surfaces may not be equally exposed to the sun and elements, NanaWall makes no warranty with respect to the uniformity of fading.

Rollers. The rollers in NanaWall product are warranted to be free of manufacturing defects in material and workmanship that significantly impair proper operation and function for 10 years from Delivery.

Wood and Other Remaining Components. Where product is installed by a NanaWall specific system approved or NanaWall Certified Installer, all remaining components of NanaWall products not otherwise addressed in this Warranty are warranted against defects in materials and workmanship that substantially impair operation and function for a period of 10 years from Delivery. This includes, but is not limited to, wood frame components, hinges, handles, locking mechanisms, tracks, and weather-stripping.

FIVE YEAR COVERAGE

Laminated Glass. The laminated glass in NanaWall products is warranted to perform for five (5) years from Delivery against a permanent material obstruction of vision due to premature delamination.

Wood and Other Remaining Components. In the event that product is not installed by a NanaWall specific system approved or NanaWall Certified Installer, the coverage period for Wood and Remaining Components addressed above is reduced to five (5) years from Delivery.

Insulated Glass for zero by NanaWall. The insulated glass provided for zero by NanaWall is warranted to be free from a permanent material obstruction of vision due to a premature failure of the glass seal for five (5) years from the date of Delivery.

THREE YEAR COVERAGE

Anodized Surface Finish of Aluminum Profiles. Anodized surface finish of aluminum profile is warranted to perform for a period of three (3) years from Delivery as an Effective Surfacing Material.

WHAT NANAWALL WILL DO

NanaWall shall have no obligation to respond under this Warranty until receipt of proper notice of a claim during the warranty period and an opportunity to respond. Upon proper notice and confirmation by NanaWall of a condition covered under this Warranty, NanaWall shall respond in its sole discretion and in a timely manner as follows:

Glass. NanaWall shall (1) ship a replacement glass unit to the location of original product delivery or (2) refund the original purchase price of the glass paid by NanaWall.

Surface Finishes of Aluminum Products. NanaWall shall (1) assume reasonable costs to restore the finish on non-compliant (non-ESM) materials using standard commercial refinishing techniques; (2) ship replacement parts to the location of original product delivery; or (3) refund the original purchase price of the non-compliant product.

Rollers. NanaWall shall ship replacement rollers to the location of original product delivery.

For covered product conditions not specifically addressed above, NanaWall's obligations under this Warranty shall be limited, at its option, to: (1) ship a replacement part or product without charge; (2) ship any replacement part or replacement product in its original stage of fitting and/or finishing as supplied by NanaWall; or (3) refund the original purchase price of the product.

NanaWall will repair or replace only defective parts or components. This Warranty does not cover labor costs to install a replacement part or product, or cost to repair or replace surrounding substrates, trim, or other carpentry work. Nor does it cover costs incurred due to delays or other construction costs, costs for late or damaged delivery, loss of time, inconvenience, or loss of use of the product or any parts or components. Any action taken by NanaWall does not create a new warranty or extend the duration of the original product warranty. A failure by NanaWall to enforce a warranty provision shall not constitute a waiver barring subsequent enforcement.

Replacement products will be the closest equivalent current product and may not be an exact match to the original. NanaWall reserves the right to determine whether or not a defect exists and if it is covered under this Warranty. Repair or replacement of warped wood panel or frame can be delayed by up to 12 months from date of claim to allow wood component to adjust to local conditions. If the claim is not covered under this Warranty, NanaWall may charge a fee for on-site product inspections.

NOTICE PROCESS

Written notice of any claim under this Warranty with supporting documents such as photos or videos must be given to Nana Wall Systems, Inc., 100 Meadowcreek Drive, Corte Madera, CA 94925, promptly when discovered. All rights under this Warranty will be waived if there is a failure to notify NanaWall within 30 days of receipt of the product for any defect which an ordinary inspection would reveal, or if there is failure to make a claim within a reasonable time during the warranty period after a hidden defect is discovered.

DISCLAIMERS & LIMITATIONS

Any liability of NanaWall is contingent upon owner fulfilling its notice obligations as stated in this Warranty. Owner shall have no standing to assert a claim absent timely notice to NanaWall and an opportunity to cure. The remedies prescribed in this Warranty are the exclusive and sole remedies available to owner. In no event shall the liability of NanaWall or any seller of NanaWall products arising out of a product defect exceed the price paid for the product.

This Warranty is the sole warranty for NanaWall products. **ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE DISCLAIMED. NANAWALL SHALL NOT BE LIABLE FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES.** Where disclaimer of implied warranties is prohibited by law, the duration of any implied warranties is limited to the duration of this Warranty. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state. No one is authorized to make any different or additional warranties.

The warranties detailed in this document are the only statements of the legal responsibility of NanaWall and any seller of NanaWall products with respect to covered NanaWall products manufactured on or after November 30, 2015, sold by NanaWall and installed in the United States (50 states only) or Canada only.

OTHER WARRANTY LIMITATIONS

This Warranty does not cover damage or conditions caused in whole or part by:

- Improper selection, application, storage, handling, modification, installation, or waterproofing; Movement of surrounding substrates; Failure to properly install product according to NanaWall's instruction or to integrate product into the structure to prevent water intrusion; Failure to prevent the effects of sheeting rain or water or failure to provide an appropriate flashing system; Failure to meet code or specification requirements.
- Improper finishing, including, but not limited to, not properly finishing all sides of wood products in a timely manner or before exposure to weather, finishing exterior wood in dark colors, or not refinishing periodically; Failure to immediately repair any breaches such as scratches, chips or abrasions in any finish.
- Product installed within close proximity of any coastal area or body of salt water; Filiform corrosion in coastal environments, tarnish, or corrosion to hardware finishes; Product installed in other harsh or corrosive environments, including near swimming pools or where subjected to harsh chemicals such as road salt, solvents, acid, brick or mortar wash, or cleaning chemicals.
- Normal weathering, wear and tear; Discoloration of finish; Failure to follow the NanaWall operation and maintenance instructions; Failure to operate the product for more than one month; Failure to clean and maintain aluminum surfaces in accordance with AAMA 609 and 610 or not maintaining adequate cleaning records.
- Imperfections in glass that do not affect the product's structural integrity or obscure vision and cannot be detected from within 10 feet as per ASTM C 1036; Accidental or spontaneous glass breakage; Glass breakage due to thermal stresses; Film applied to the glass surface; Industry accepted bow, warp or distortion in glass and minor variations in glass color; Glass not installed as per NanaWall's instructions.
- Variations in wood grain or color; Warp within the allowable warp tolerance for wood panels per ANSI/WDMA I.S. 6-A-01; Warpage on wood panels caused by leaving panels in the open position exposed to the elements or not engaging the locking points properly when in the closed position; Resin bleeding from wood panels.
- Panel shrinkage or expansion caused by change in weather; Expansion of aluminum units in dark colors caused by direct exposure to sunlight.
- Acts of God, falling objects, fire, accidents, external forces, or other conditions beyond NanaWall's control.
- The amount of argon or other gas remaining in insulated glass at any time after manufacture; Condensation, frost or mold caused by high interior relative humidity.
- Performance of product in conformance to any published NanaWall testing results in terms of air and water infiltration and structural loading. These results measure the performance of a single sample of the product of a certain size and configuration. Performance in the field may change over time depending upon the conditions of handling, installation, use, and maintenance.
- Products or components not supplied by NanaWall; Products that have not been paid for in full; Products ordered in larger sizes or special configurations beyond NanaWall's published specifications.

NanaWall Warranty Registration

Must be filled out and returned to the address printed at the bottom of this form within 30 days from date of purchase of the NanaWall in order for the limited warranty to become effective.

NANAWALL ORDER # _____ **PROJECT NAME** _____

Date of Purchase _____ Purchaser Name _____

PROPERTY OWNER

Name _____ Address _____

Telephone _____ E-mail _____

Project Address (if different from above) _____

INSTALLATION

Installer Name _____ Address _____

Telephone _____ E-mail _____

Type of project new residential restaurant shopping mall

residential remodel office building other _____

Architect Name _____ Address _____

1. Is the installation complete? yes If yes, date completed _____

no If no, date scheduled _____

2. Have you been shown how to operate your new NanaWall? yes Is operation satisfying? yes no

no Why not? _____

Signature _____ Date _____

Printed Name _____