



**MODULAR**  
SERVICES COMPANY

# INSTALLATION MANUAL

## FLATWALL

*Model # Series 1100, 2200 and 4400*



## OVERVIEW

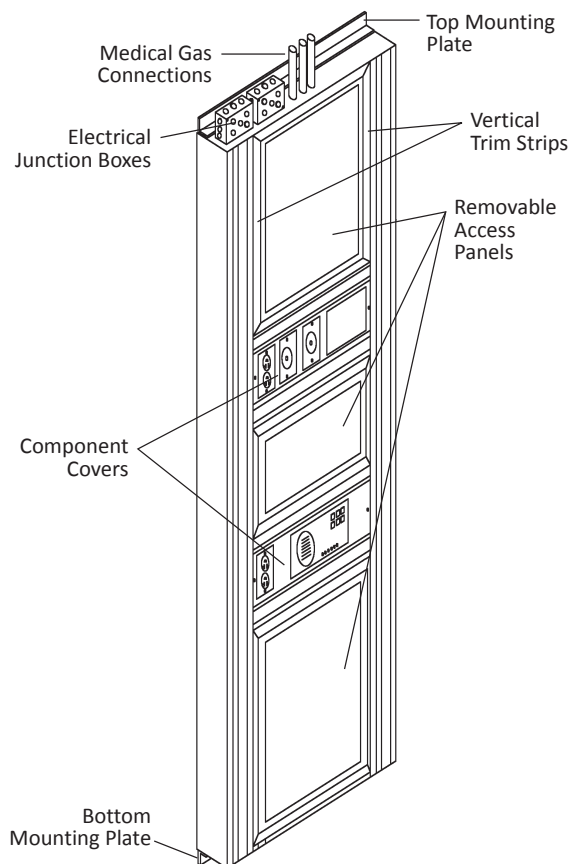
The Flatwall is a UL-listed, vertically oriented, surface-mounted medical headwall assembly. Flatwall assemblies are available in single- and multiple-module configurations, as well as units for inaccessible ceilings. The component chases in Flatwall units accept standard-depth components such as medical gas services, normal and emergency electrical services, and communications devices. The vertical and/or horizontal accessory tracks are integral parts of the Flatwall unit, accepting adapters throughout their length to conveniently locate accessories.

The installation of the Flatwall is a three-step process:

1. Fasten the Flatwall to the building wall.
2. Make the appropriate medical gas and electrical service connections and install components in provision locations.
3. Attach the unit accessories.

Due to variations of interior and exterior wall construction in medical facilities, specific fasteners and actual methods of installation are not specified; therefore, the following installation instructions are general guidelines only. Read all instructions before beginning installation and highlight the sections which apply to the equipment purchased.

Figure 1.



## PREPARATION

1. Upon receipt of Flatwall units and prior to unpacking, inspect shipping containers for damage. Document any damage found and notify the carrier and Modular Services Company.
2. Clear a large work area near the location where the Flatwall is to be installed.
3. Locate the carton for the unit you wish to install. Labels at each end of the carton identify the unit type and general description of contents, as well as the room number or area of installation (if applicable).
4. Place the appropriate cartons face down on the floor.
5. Carefully open each carton. Dispose of all excess packaging material, leaving cardboard under the Flatwall to protect the face during installation.
6. Inspect units for defects in materials or workmanship prior to installation. It is the responsibility of the customer to report any damage or deficiencies to Modular Services immediately upon discovery.
7. Review the final approved shop drawings and the submittal booklet, which will provide you with technical details specific to your installation, such as:
  - Wiring diagrams
  - Equipment types and quantities
  - Shop drawings of each type unit
  - Room numbers and locations in building (if applicable)

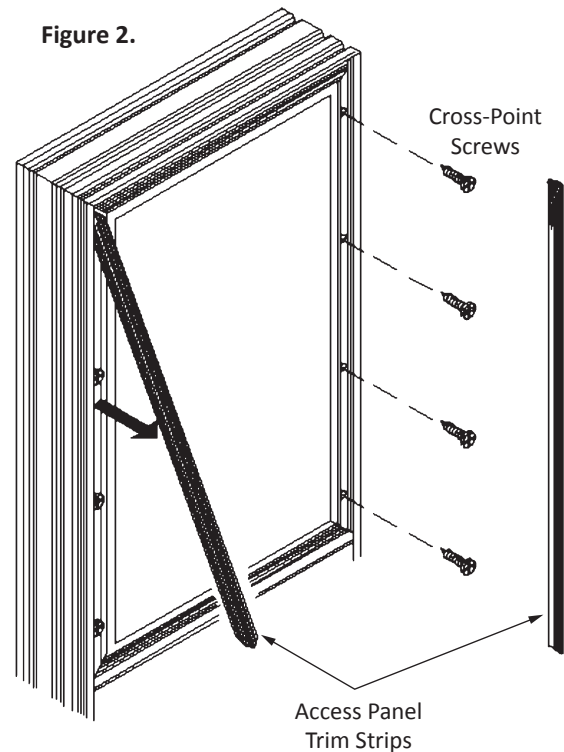
**WARNING:** Before installation of the Flatwall units, make sure the walls are constructed of at least 20-gauge steel studs on 16" (41cm) centerlines, and are covered with a minimum of 5/8" (15.9mm) drywall. Failure to do so could lead to the collapse of the Flatwall unit, with resulting personal injury or property damage.

**IMPORTANT:** Wainscoting should not be installed behind the Flatwall unit. Ideally, partial wall coverings should be applied after the unit is installed. If the coverings are to be applied before installation of the Flatwall unit, a section equal to the width of the unit should remain uncovered.

## HALF-LENGTH OR INACCESSIBLE CEILING UNITS

This section pertains only to half-length modules and modules ordered for inaccessible ceilings. If you are installing any other type of Flatwall, skip to the **Unit Installation** section.

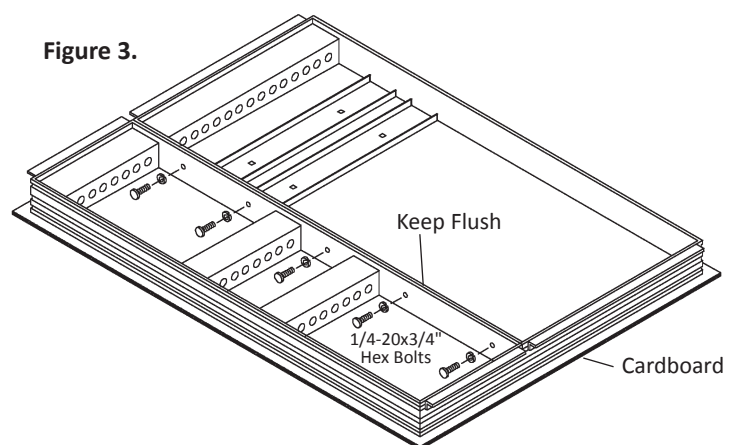
1. Installation of half-length modules or units for inaccessible ceilings require that the unit's upper fascia be removed for access to the top mounting bracket.
2. Unpack the unit and place face up on the floor.
3. Mark the original orientation of the two vertical trim strips on the top fascia, as they are not interchangeable.
4. Carefully insert the blade of a small utility knife into the lower miter joints of the two vertical trim strips and pry out the strips (Figure 2). It is not necessary to remove the horizontal trim strips.
5. Remove the cross-point screws under the vertical trim strips and remove the fascia.
6. The screws, fascia and trim strips will be reinstalled after mounting unit is complete.



## MULTI-MODULE UNITS

This section pertains to multiple-module assemblies only. If you are installing a single-module unit, skip to **Unit Installation**.

1. Place the sections of the multi-module unit face down in front of the wall where the unit is to be installed. This will allow the units to be raised in place together when assembled for mounting.
2. Ensure there is cardboard or some other appropriate padding under the units to protect the face of the units from being damaged.
3. Attach the modules together using the 1/4-20 x 3/4" hex bolts and lock washers provided. Ensure the backs and ends of the modules are flush with each other while tightening the bolts (Figure 3). Do not over-tighten.



## UNIT INSTALLATION

1. Lifting from the top center of the module(s), carefully lean the unit upright against the building wall.
2. Position the unit in the correct location on the building wall.

**NOTE:** Full-length, accessible-ceiling units should be positioned so that the top of the unit is flush with the ceiling. Ceiling grid supports must be removed from area of Flatwall installation. The Flatwall supports the ceiling tiles surrounding the unit.

3. Ensure the sides of the unit are plumb.
4. Fasten the top and bottom module mounting brackets to the building wall studs using #10 or larger self-drilling screws into wall studs (Figure 4). Use one screw per stud in the upper and lower mounting angles.
5. Install a minimum of four additional 3/16" toggle bolts per module.

## INSTALLING ADDITIONAL COMPONENTS

### Vacuum Bottle Retainer Bracket

1. If the unit includes a vacuum bottle storage unit, a final 1/4-20 x 3/4" hex bolt and lock washer must be installed at this time. A 7/16" socket and short extension will be needed for this procedure.
2. Use the four screws provided with the Flatwall to attach the vacuum bottle retainer bracket (Figure 5).

Figure 4.

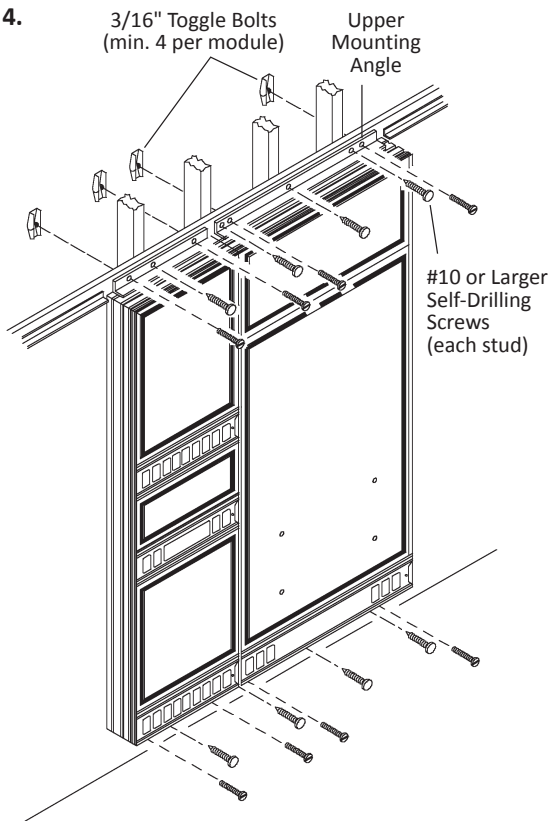
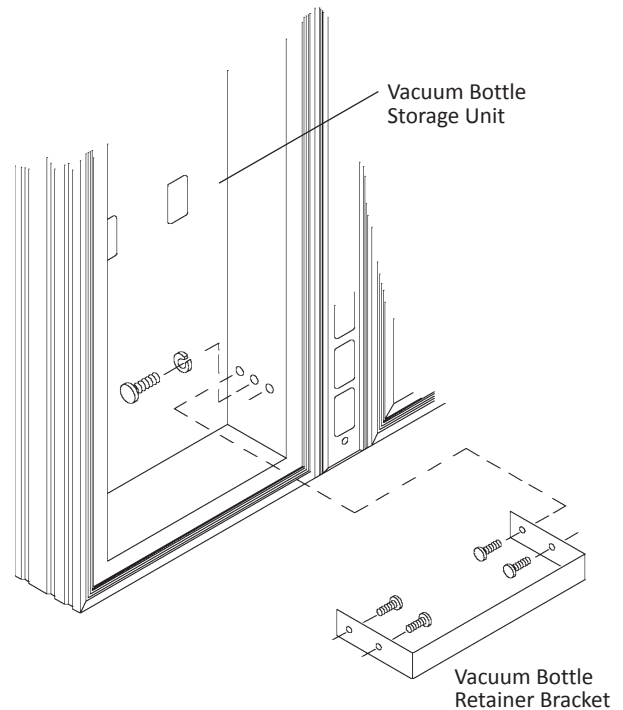


Figure 5.



## Light Fixture

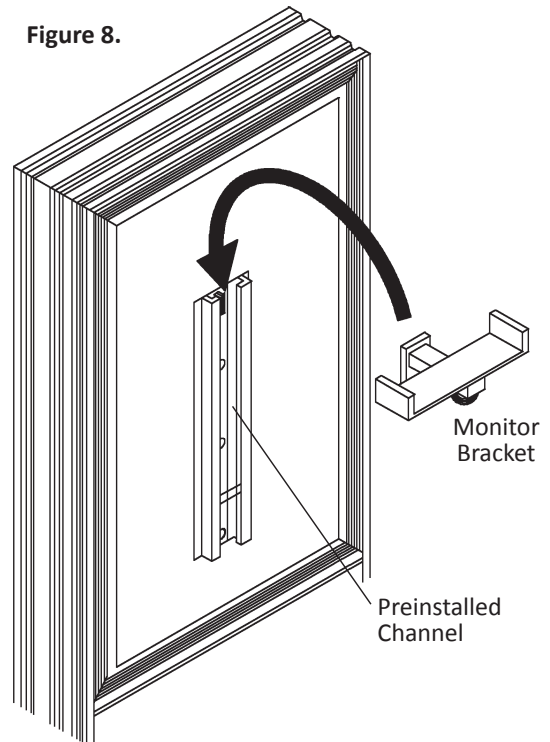
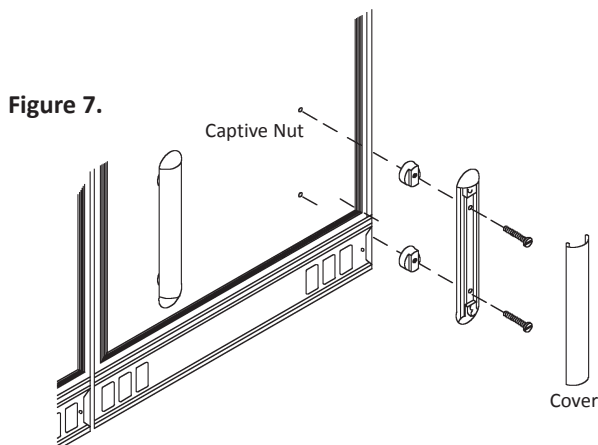
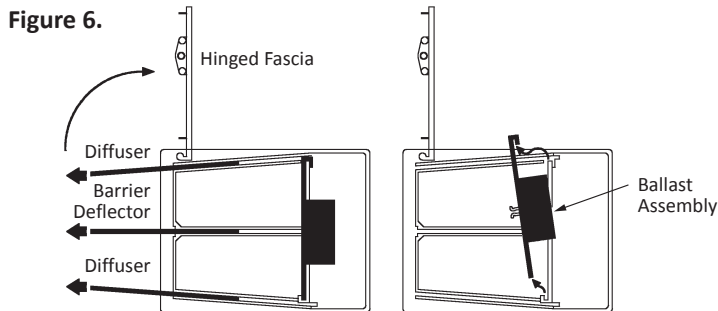
1. Carefully remove the light fixture from the carton.
2. Open the hinged fascia and remove the diffusers and barrier deflector (Figure 6).
3. Lift the ballast assembly away from the chassis and unplug the electrical connector.
4. When attaching the light fixture directly to a Flatwall, use the four screws supplied with the unit. When attaching the fixture to the building wall, the installer must supply the type of fastener best suited for the installation.
5. Make the appropriate electrical service connections. Electrical connections are made through the back of the ballast housing when the fixture is installed on the building wall and through the side of the fixture when it is installed on the unit.
6. Reassemble the fixture and install the appropriate lamps (by others).

## Bed Bumpers

1. Remove the screws from the captive nuts located in the Flatwall (Figure 7).
2. Attach the bed bumpers using the same screws. Check to see that the bumpers are plumb before tightening the screws.
3. Using the palm of your hand, snap the cover of each bed bumper into place.

## Patient Monitoring Bracket

1. Slide the monitor bracket into the preinstalled channel (Figure 8).
2. **IMPORTANT:** This bracket is designed to hold monitors weighing 80 pounds or less. Be sure to securely fasten the monitor to the patient monitoring bracket.



## MEDICAL GAS SERVICE CONNECTIONS

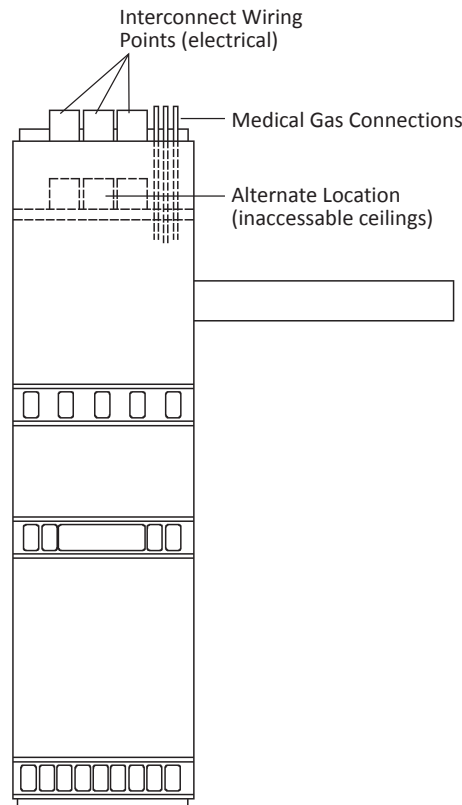
Use extreme care in making medical gas service connections (Figure 9). Each single-point service connection has been provided with a color-coded medical gas label. Medical gas systems provided by Modular Services have been cleaned, purged, brazed, blown down, labeled, and tested for cross connections and leaks in accordance with the most recent edition of NFPA 99. They are certified to be compliant to all of these requirements and to be leak free. The medical gas system installer is responsible for connecting this manufactured assembly to the pipeline in compliance with all applicable sections of the latest edition of NFPA 99.

During the process of connection to the pipeline there are multiple potential sources of contamination or damage to seals which could result in leaks. First, although Modular Services takes care to protect the ends of our piping system and the openings of station inlets/outlets to avoid contamination, it is at this point that these contamination prevention measures must be removed which exposes the system to the construction environment. Secondly, instrumentation must be inserted into the station inlets/outlets to properly purge the system while it is being brazed in accordance with the requirements of NFPA 99. Lastly, station inlet/outlet front body assemblies (if product is shipped with them installed), which are only rated to a maximum of 100 PSI, must be removed to conduct the initial pressure test which is required to be conducted at a minimum of 150 PSI. After this test is complete the front bodies must be reinstalled to conduct the standing pressure test.

In accordance with NFPA 99 section 5.1.12.2, the installer is required to test the distribution piping in its entirety, which includes the medical gas manifolds provided by Modular even though they have been pretested at the factory. Because of the multiple potential sources of contamination or damage to seals listed above, the installer is to be held responsible for repairing or replacing any seals which have been contaminated or damaged as a result of the process of connecting to the pipeline. The installer shall also be responsible for protecting the station inlets/outlets against contamination after the factory protection has been removed.

Modular Services warrants all defects in piping materials, brazed joints, and workmanship but cannot warrant leaking seals once the factory provided contamination prevention materials are removed from either the end of the piping or the station inlet/outlet.

**Figure 9.**



## ELECTRICAL SERVICE CONNECTIONS

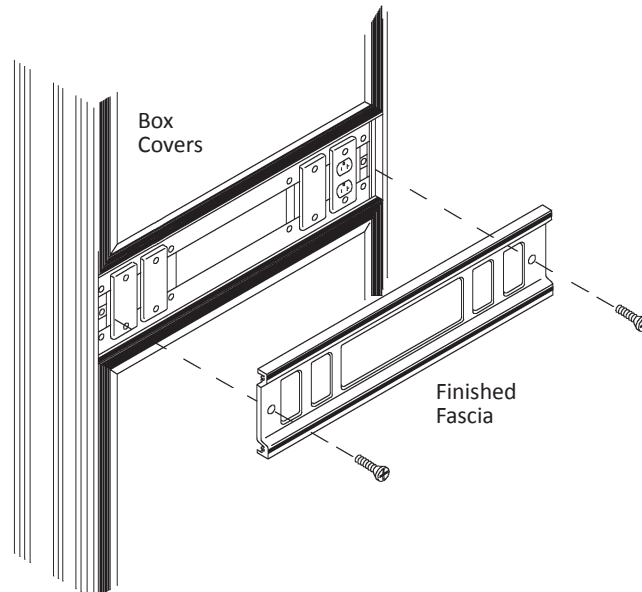
1. Ensure all electrical power circuits are locked off prior to hook-up.
2. Review wiring diagram or shop drawing.
3. Connect electrical service according to wiring diagram, being careful to observe labeling at service connection junction boxes (Figure 9).
4. **IMPORTANT:** Service connections are to be made in accordance with applicable National Electrical Codes, in addition to state and local codes.

## LOW-VOLTAGE PROVISIONS

Provisions have been made for the installation of such items as nurse call, telephones, televisions, heart monitors, etc., as indicated in the order drawings or submittal. These devices are to be mounted directly to the component console boxes behind the removable fascia cover.

1. Remove the component covers, face plates and fascias, as necessary.
2. Install each device in accordance with manufacturer's instructions.
3. Test in accordance with applicable state or local codes.
4. Reinstall the finish fascia and check for alignment (Figure 10).

Figure 10.



## CARE AND MAINTENANCE

1. Clean with mild detergent and warm water. **Do not use lubricants or oils on unit.**
2. Avoid excessive moisture build-up, as it can damage mechanisms in the unit.
3. Disinfect as required with disinfectant approved by the Environmental Protection Agency.
4. To remove difficult spots or stains, use standard household cleansers and a soft-bristled brush.
5. For parts or repairs, contact your sales representative.

## INSTALLATION TERMS AND CONDITIONS

Each Modular Services unit, or unit section, shall be completely pre-wired for normal, emergency and low voltage according to the approved submittal. Communication devices and wiring shall be supplied by others. These devices include nurse call, television, code blue, telephone, monitor jacks, etc.

The customer shall be responsible for all electrical conduits, wiring hook-up of electrical services, and if applicable, interconnect wiring between sections. All hardware light fixtures shall be installed, wired and lamped by contractor. After installation is complete, the customer shall test equipment functions, as well as electrical receptacles and ground, in accordance with the National Electrical Code.

Medical gas contractor shall be responsible for piping and hook-up of all medical gas services. The medical gas contractor shall be responsible for purging, pressure testing, gas identification, and system certification in accordance with NFPA 99.

Modular Services Company shall have no responsibility or liability for delays, however caused. Owner shall hold Modular Services harmless from damages or injury related to any failure or neglect of owner, its employees, agents or licensees. Modular Services shall not be liable for consequential damages; makes no warranties, expressed or implied; and assumes no obligation other than those expressly contained herein.

## WARRANTY

Modular Services Company warrants that all equipment assemblies shall be free from defects in material and workmanship for a period of 12 months from date of the owner's acceptance to the installing contractor or the date the equipment is put into service, whichever comes first. Warranty excludes electric lamps and/or any material not furnished by Modular Services. Warranty does not cover damage due to improper installation and/or abuse.

It is the responsibility of the customer to report any noted product deficiencies to Modular Services immediately upon discovery. It is the responsibility of Modular Services to expediently resolve the discrepancy. Any modification made to the product without the written authorization from Modular Services will void this warranty.

Also, in the event product modifications or repairs are made without the written consent of Modular Services, Modular Services shall not be liable for any cost associated with the modification or repair.

**There are no warranties of fitness which extend beyond the description on the face hereof.**



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