



MODULAR
SERVICES COMPANY

INSTALLATION MANUAL

SILHOUETTE® III



PRODUCT OVERVIEW

The Silhouette® III is a UL-Listed, recessed, horizontal medical headwall. The system is built with multiple horizontal equipment channels and one or more component tiers to conveniently locate services such as medical gas, electrical, and communications. The unit may be installed in conjunction with an optional Bed Docker unit. The units shown in this document are examples; each unit will vary in details according to the services installed and the size of the unit. Refer to drawings to verify unit dimensions and services.

UNPACKING AND INSPECTION

1. Upon receipt of units and prior to unpacking, inspect shipping containers for damage. Document any damage found and notify the carrier and Modular Services Company.
2. 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).
3. Unpack the unit from shipping container, taking care not to damage the unit.
4. Verify that all components are included, according to the packing slip.
5. Inspect the 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 Company immediately upon discovery.

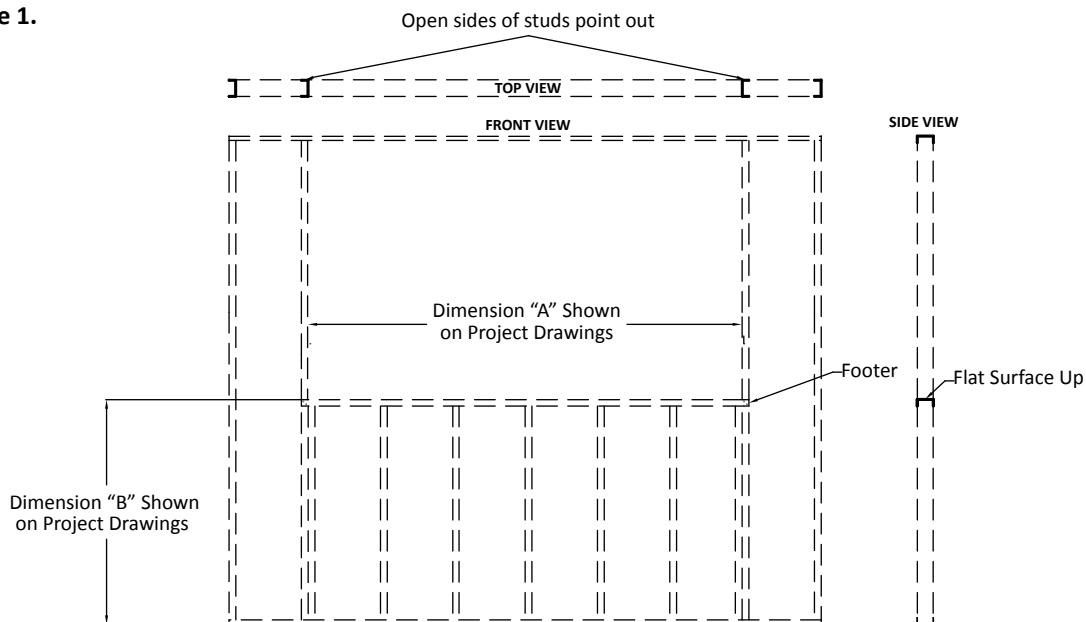
INSTALLATION OVERVIEW

The Silhouette® III is installed into a framed opening in the stud wall. Jobsite personnel insert the headwall into the opening, drop services provisions to the unit, and make service connections. After required verifications, drywall (and additional wall covering if required) is installed, the housing is secured to the rough-in frame, and the trim kit is installed.

FRAMING PREPARATION

1. For single sided units, frame an opening as illustrated in Figure 1. Dimensions for the required opening are project-specific and are indicated on the approved elevation drawings. The horizontal footer and vertical studs should be installed with the flat surface oriented toward the opening. For installation of the Silhouette® III units, make certain walls are constructed of at least 20-gauge steel 3" or 3-5/8" studs on 16" (41 cm) centerlines.

Figure 1.

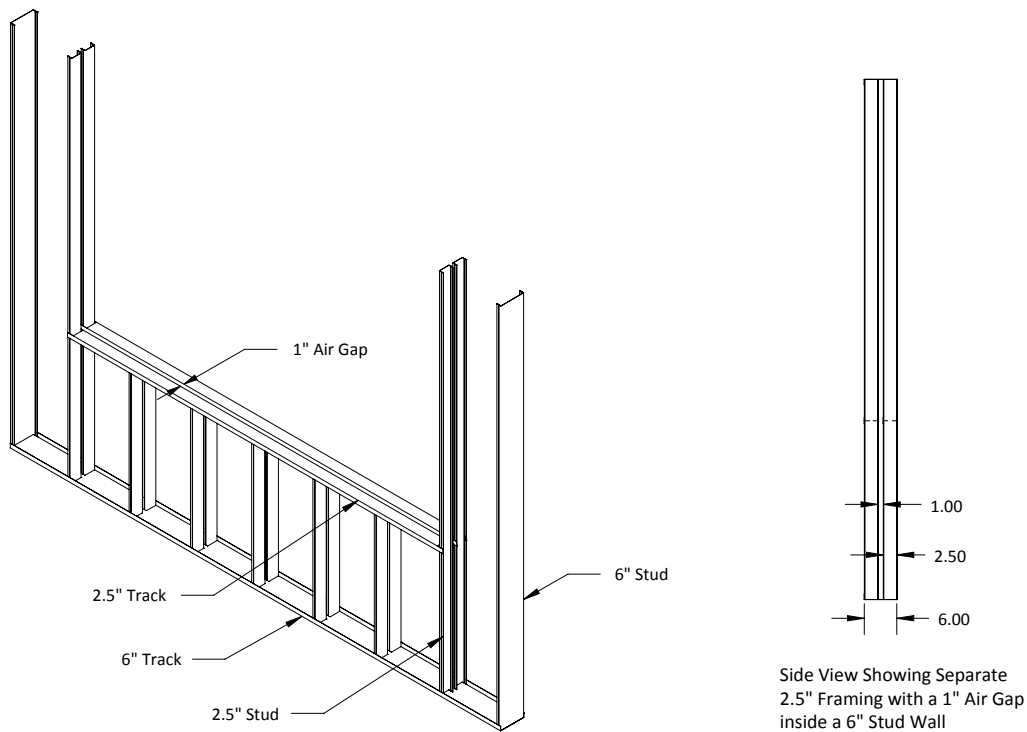


Frame opening as shown. Horizontal footer should be installed with opening in the down position. Stud wall must be, at minimum, 20-gauge steel studs on 16" centerlines.

2. If units are being installed back to back, frame openings as shown in Figure 1. Dimensions for the required opening are project-specific and are indicated on the approved elevation drawings. The horizontal footer and vertical studs should be installed with the flat surface oriented toward the opening. For installation of the two Silhouette® III units, make certain walls are constructed of at least 20-gauge steel 6" studs on 16" (41 cm) centerlines.

NOTE: For Silhouette® III to achieve an STC rating of 50 in a back-to-back scenario, a 6" wall consisting of independent 2.5" studs with a 1" air gap, R-19 batt insulation, and 5/8" gypsum wall board is required for framing that contacts the Silhouette® III units. Framing outside of the headwalls is not meant to be included in this specification and can therefore be what is specified by the project plans. (See Figure 2).

Figure 2.



3. If the unit is being installed with a Bed Docker, follow the Bed Docker installation instructions.

UNIT INSTALLATION

1. Place the headwall on the footer and slide it back into the wall cavity.
2. Ensure the unit is level and fasten the headwall to the vertical studs at the attachment locations illustrated in Figure 3a (single-tier unit) or Figure 3b (multiple-tier unit). Use standard framing fasteners.
3. Add additional support members above the unit. The Silhouette® III unit is supplied with a header pre-attached to the assembly. This header's open side faces up, allowing it to accept the support members.

Figure 3a. Single-Tier Unit

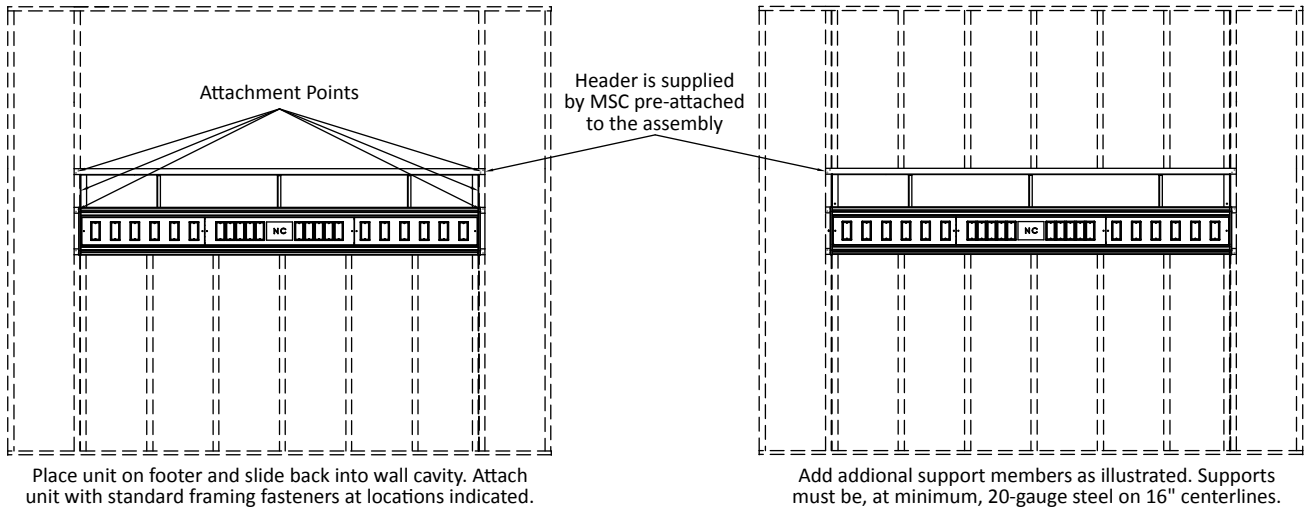
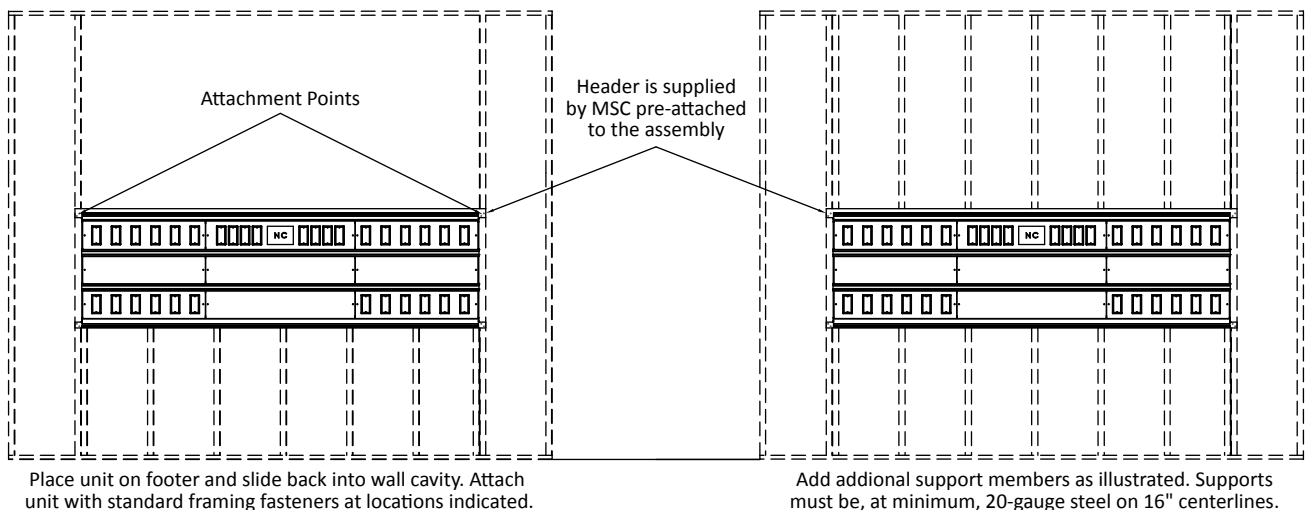


Figure 3b. Multiple-Tier Unit



SERVICE CONNECTIONS

Prior to making service connections, pull the component housing out so that the gap behind the horizontal mounting flange is equal to the drywall thickness. Making service connections with the component housing out of position could create stress on the piping when adjusted for drywall finish. The housing is attached to the rough-in assembly with fasteners in slotted holes and left slightly loose to allow for this adjustment. If required, remove the front panels of the unit to make service connections. Remove the two panel screws (and gas front bodies if necessary), lift the panel up and pull the bottom out. If the panel is to be completely removed, remove cover plates and devices prior to removing the panel. See Figures 4a and 4b.

Figure 4a. Single-Tier Unit

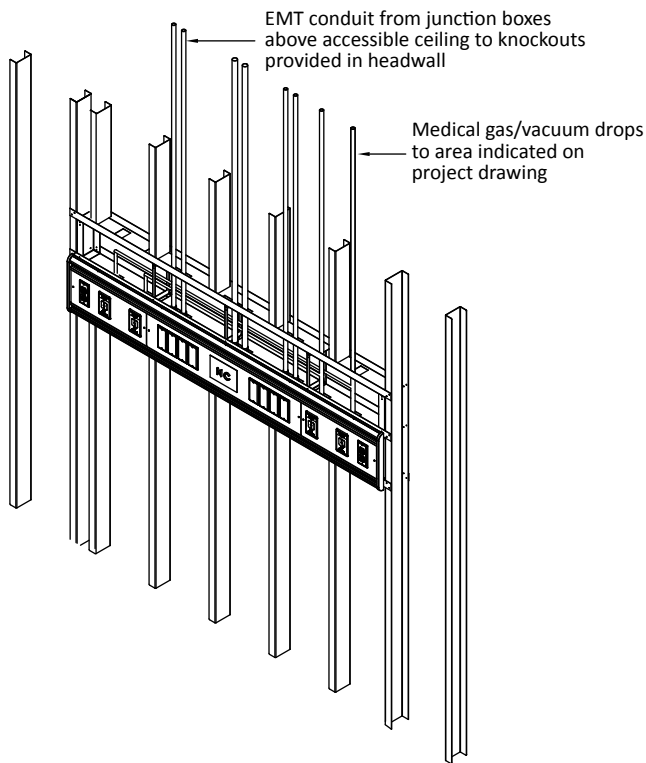
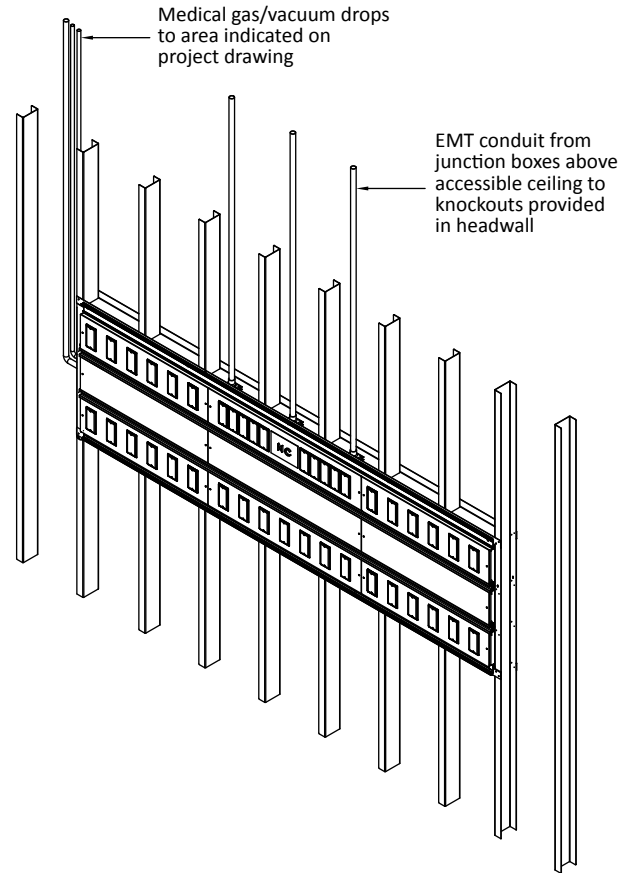


Figure 4b. Multiple-Tier Unit



MEDICAL GAS SERVICE CONNECTIONS

Medical gas/vacuum piping is connected to provide a single attachment point, as described in the project drawings. Drop down and braze into the unit with medical gas piping according to NFPA 99 and local building codes, taking care not to burn through any conduit or other components during brazing.

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.

ELECTRICAL SERVICE CONNECTIONS

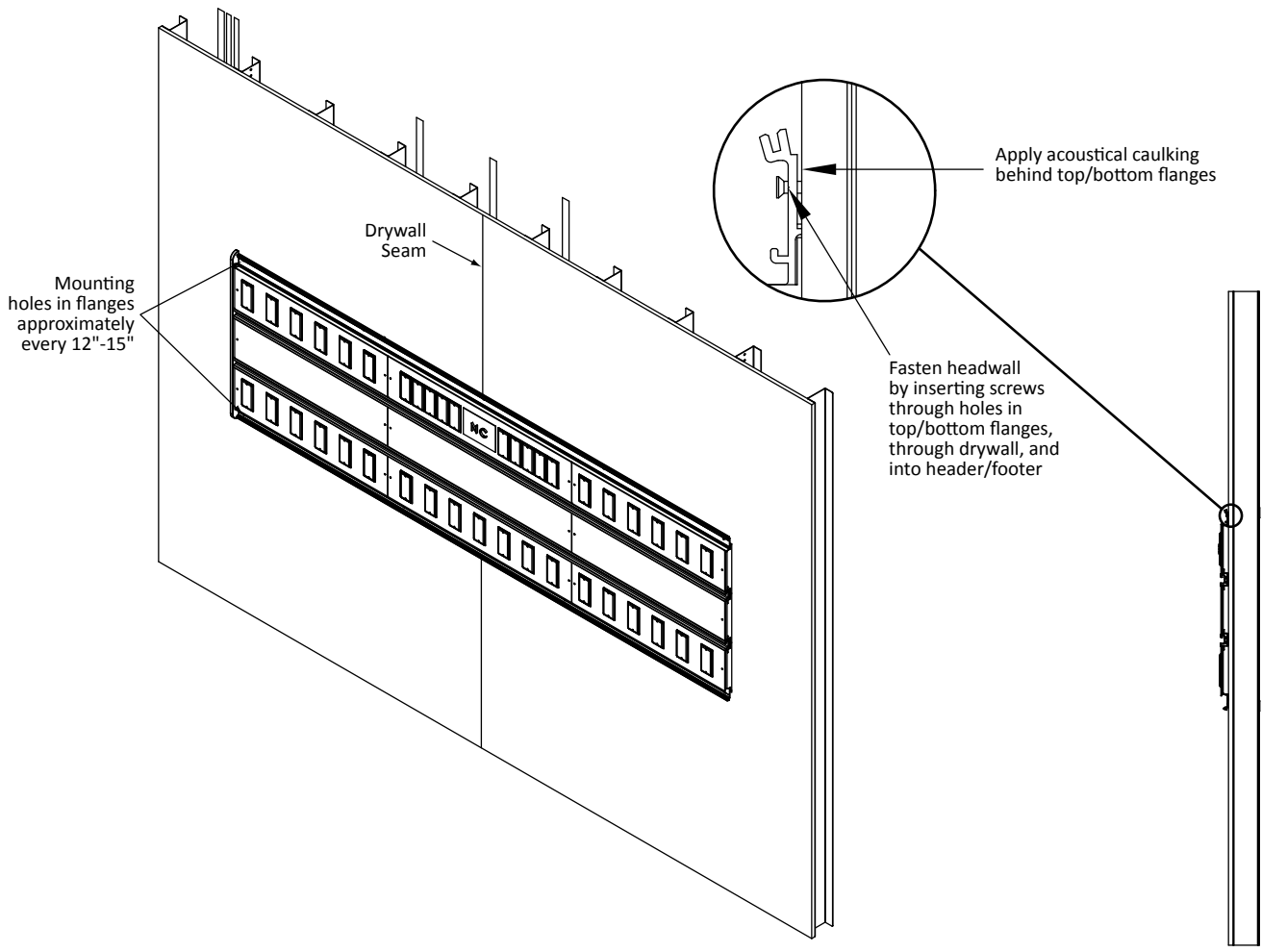
EMT conduit should be installed by jobsite personnel from junction boxes above the accessible ceiling line to the supplied electrical knock-out(s) in the header. Service connection locations are indicated on the project specific drawings.

Pull necessary wiring through EMT conduit to/from the field-installed junction box, and make connections according to local building codes.

DRYWALL INSTALLATION

1. Prior to installation of the drywall, ensure that all medical gas piping and any required unexposed electrical connections have been completed.
2. Pull the component housing out so that the gap behind the horizontal mounting flanges is slightly larger than the drywall thickness. This will allow the drywall material to slide in behind the flanges. The housing is attached to the rough-in assembly with studs in slotted holes and left slightly loose to allow for this adjustment. See Figure 5.
3. For installation around the component housing, cut drywall to a size that will allow the material to slip under the lip of the horizontal mounting flanges on the top and bottom of the housing. A seam will be required in the location of the component housing. Cut drywall in a manner to minimize the gap on the sides of the component housing, reducing the amount of caulking required.
4. Attachment of the drywall can be accomplished using standard drywall fasteners directly to the metal studs and drywall supports of the units. **Use caution not to place screws directly in line with medical gas/vacuum piping or electrical conduit.**
5. Perform all taping, joining, texturing and painting.
6. Caulk behind the horizontal mounting flanges of the component housing with an acoustical sealant.
7. Push the unit into the wall until the horizontal flanges contact the drywall. Attach the unit to the metal header and footer behind the drywall using #8 or #10 sheet metal or drywall screws inserted through the supplied holes in horizontal flanges.
8. Apply acoustical caulk to fill the gaps on the sides between the component housing and the drywall to seal off the wall cavity.

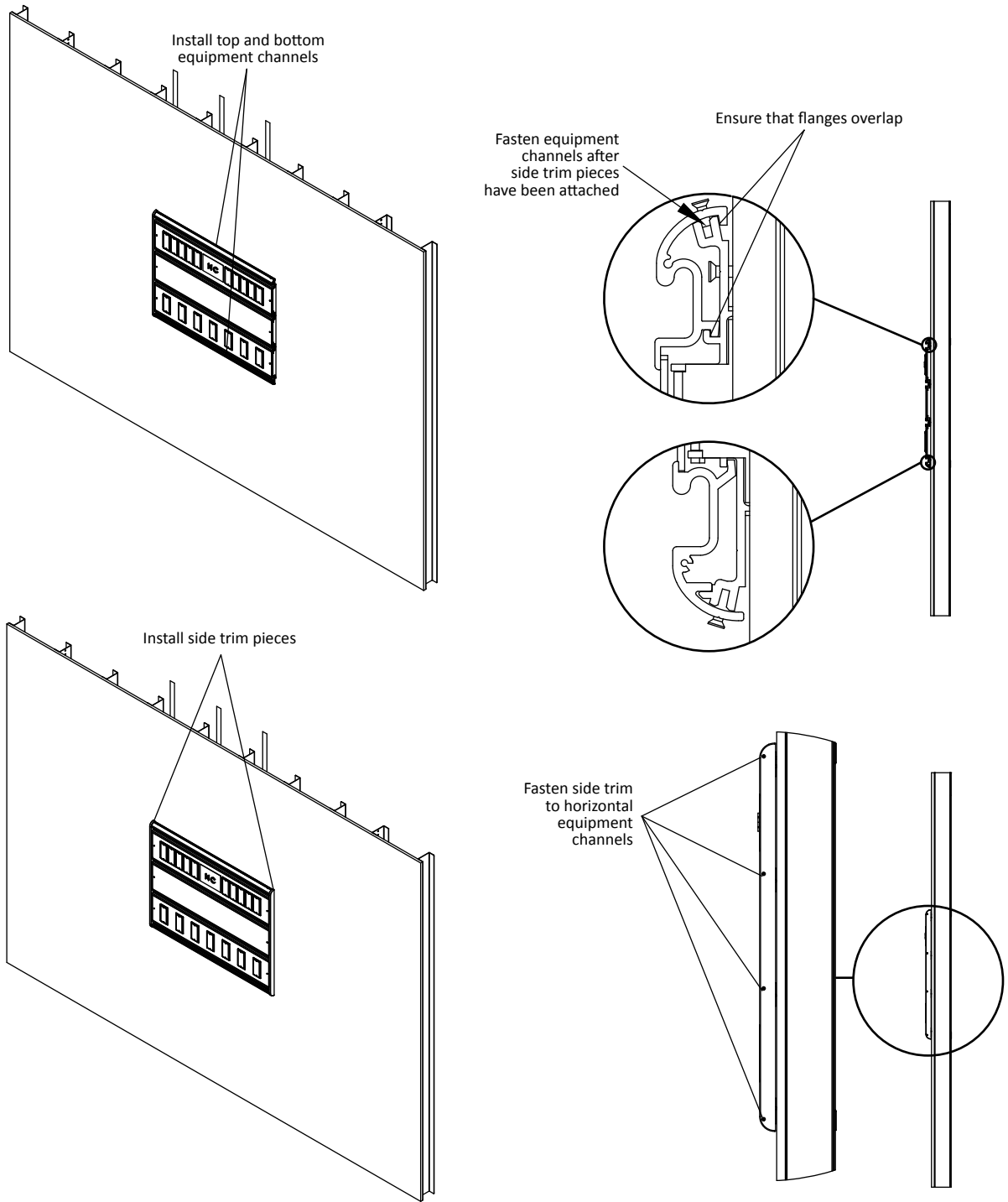
Figure 5.



TRIM INSTALLATION

1. The top and bottom horizontal equipment channels and end trim pieces are shipped unattached to the unit. These components are attached to the unit after the headwall and wall covering(s) are installed.
2. Install the top and bottom horizontal equipment channels. Ensure that the hooks are overlapped as illustrated. Do not fasten until side trim pieces are attached. See Figure 6.
3. Fasten the side trim pieces to the unit using the long flat-head screws provided.
4. Fasten the horizontal equipment channels to the unit using the short oval-head screws provided.

Figure 6.



CARE AND MAINTENANCE

1. Clean with mild detergent and warm water.
2. Avoid build-up of excessive moisture, 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. NOTE: Do not use lubricants or oils on unit.

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 (above the junction boxes or indicated termination points), 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 held 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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