

SECTION 10 25 13
PATIENT BED SERVICE WALLS

PART 1 - GENERAL

1.1 DESCRIPTION

This section specifies the furnishing, installation and connection of the patient wall systems both horizontal and vertical. Patient wall systems are also referred to as prefabricated bedside patient units or PBPUs.

1.2 RELATED WORK

- A. Section 09 06 00, SCHEDULE FOR FINISHES: Color and finishes of the patient wall units.
- B. Section 22 62 00, VACUUM SYSTEMS FOR LABORATORY AND HEALTHCARE FACILITIES AND Section 22 63 00, GAS SYSTEMS FOR LABORATORY AND HEALTHCARE FACILITIES: Requirements for air, oxygen and vacuum outlets in the patient wall units.
- C. Section 26 05 11, REQUIREMENTS FOR ELECTRICAL INSTALLATIONS: General electrical requirements that are common to more than one section of Division 26.
- D. Section 26 05 33, RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS: Raceways and outlet boxes for wiring.
- E. Section 26 05 21, LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES (600 VOLTS AND BELOW): Cables and wiring.
- F. Section 26 27 26, WIRING DEVICES: Wiring devices to be installed in the patient wall units.
- G. Section 26 24 16, PANELBOARDS: Panelboard requirements for patient wall units with a panelboard.
- H. Section 26 05 26, GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS: Requirements for personnel safety and to provide a low impedance path to ground for possible ground currents.
- I. Section 26 51 00, INTERIOR LIGHTING: Lighting fixture requirements when installed in or connected to the patient wall units.
- J. Section 27 52 23, NURSE CALL/CODE BLUE SYSTEMS: Nurse Call and Code One requirements for installation in the patient wall units.

1.3 SUBMITTALS

- A. In accordance with Section 26 05 11, REQUIREMENTS FOR ELECTRICAL INSTALLATIONS, submit the following:

B. Shop Drawings:

1. Sufficient information, clearly presented, shall be included to determine compliance with drawings and specifications.
2. Include electrical ratings, dimensions, mounting details, front view, side view, equipment and device arrangement, wiring diagrams, material, and connection diagrams.
3. Determine final layout of each style of patient wall system at this stage. Provide configuration drawings showing all possible device (nurse call, medical gases, electrical receptacles and switches, etc.) locations to the Resident Engineer. The Resident Engineer will provide by return of submittal the desired configuration of each style of patient wall system. Limit the number and type of devices allowed for each style of unit to the number and type of devices specified for that style below.

C. Manuals: Two weeks prior to the final inspection, deliver four copies of the following to the Resident Engineer.

1. Complete maintenance and operating manuals including wiring diagrams, technical data sheets, and information for ordering replacement parts:
 - a. Include complete "As installed" diagrams which indicate all items of equipment, their interconnecting wiring and interconnecting piping.
 - b. Include complete diagrams of the internal wiring for each of the items of equipment, including "As installed" revisions of the diagrams.
 - c. Identify terminals on the wiring diagrams to facilitate installation, maintenance and operation.

D. Certifications: Two weeks prior to the final inspection, deliver four copies of the following certifications to the Resident Engineer:

1. Certification by the manufacturer that the equipment conforms to the requirements of the drawings and specifications.
2. Certification by the Contractor that the equipment has been properly installed, adjusted, and tested in accordance with the manufacturer's recommendations.

1.4 APPLICABLE PUBLICATIONS:

- A. Publications listed below (including amendments, addenda, revisions, supplements and errata) form a part of this specification to the extent referenced. Publications are referenced in text by the basic designation only.
- B. National Fire Protection Association (NFPA):
 - 70-07.....National Electrical Code (NEC)
 - 99-05.....Health Care Facilities
- C. Underwriters Laboratories, Inc. (UL):
 - UL listed in product category SECTIONS AND UNITS (QQXX). This standard used to investigate listed products in this category is NFPA 70 (NEC).

PART 2 - PRODUCTS**2.1 PATIENT WALL SYSTEMS**

- A. Basis of Design Herman Miller, Compass System.
- B. Shall be UL listed.
- C. Shall consist of a structural framework, removable panels in Durawrap finish and removable equipment console units, factory assembled to house all permanent bedside services including but not necessarily limited to fixtures, grounding jacks, power outlets, telephone outlet, nurses call patient station, medical gas outlet(s) and other fittings or devices.
- D. Shall conform to the following:
 - 1. Applicable requirements in NFPA 70 (NEC) and NFPA 99.
 - 2. Assembly and all components shall be UL listed or labeled.
- E. Coordinate the mounting space provisions for the nurse call equipment with Section 27 52 23, NURSE CALL/CODE BLUE SYSTEMS.
- F. Compressed Air, Oxygen and Vacuum System Equipment: Furnish, install and test the equipment in accordance with the drawings and Section 22 62 00, VACUUM SYSTEMS FOR LABORATORY AND HEALTHCARE FACILITIES and Section 22 63 00, GAS SYSTEMS FOR LABORATORY AND HEALTHCARE FACILITIES.
 - 1. Fixed medical gas outlets are permanently installed in one location and may not be moved without special tools and shutting off the gas involved.
 - 2. Movable medical gas outlets:
 - a. Hose connected to gas manifold type:
 - 1) The hoses connected to gas manifold shall be UL listed and labeled for the purpose.

- 2) All hoses shall be accessible at all times. Use bars or other restraining devices to control exposed hoses. A panel may cover the hoses provided it can be easily removed without the use of special tools for hose inspection.

b. Relocatable type:

- 1) Relocatable (snap-in) without the use of tools to any one of several different fixed locations.
- 2) Appropriate relocatable adapter can be used to access available gases from each fixed location.
- 3) Cover all unused locations with a blank (no gas) adapter plate.

G. Electrical receptacles and switches shall comply with the requirements in Section 26 27 26, WIRING DEVICES; grounding in Section 26 05 26, GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS; and internal wiring in Section 26 05 21, LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES (600 VOLTS AND BELOW).

H. Styles:

1. Style A1: A single bed patient wall unit consisting of a horizontal unit. Horizontal units shall consist of a minimum of three rails (two rails can be used if the bed light is independently mounted). Patient bed light power must be wired through the patient wall unit. Provide a middle rail for power, nurses call and medical gases as well as a bottom rail with bed bumper and for bed motor power. The horizontal unit shall have a vertical chase connecting the rails to the above ceiling junction boxes and gas connection points. All electrical devices shall be wired in accordance with the schematic diagram shown on the drawings.

- a. Provide oxygen gas outlet(s): As Indicated On Drawings.
- b. Provide air outlet (s): As Indicated On Drawings.
- c. Provide vacuum outlet(s): As Indicated On Drawings.
- d. Provide emergency power outlets: As Indicated On Drawings, NEMA 20R single receptacles, self illuminated red with stainless steel or anodized aluminum cover plate, engraved "EMERGENCY POWER" with minimum 6 mm (1/4 inch) red filled letters.
- e. Provide normal power outlets: As Indicated On Drawings, NEMA 20R single white receptacles. One of which is for the bed motor. Provide stainless steel or anodized aluminum cover plates.

- f. Provide Nurses Call audio-visual single bed station.
 - g. Provide Tele-cart jack.
2. Style A2: A two bed patient wall system consisting of a horizontal unit. Horizontal units shall consist of a minimum of three rails (two rails can be used if the bed light is independently mounted). Patient bed light power must be wired through the patient wall unit. Provide a middle rail for power, nurses call, and medical gases as well as a bottom rail with bed bumper and for bed motor power. The horizontal unit shall have a vertical chase connecting the rails to the above ceiling junction boxes and gas connection points
- a. Provide oxygen gas outlets: As Indicated On Drawings.
 - b. Provide air outlets: As Indicated On Drawings.
 - c. Provide vacuum outlets: As Indicated On Drawings.
 - d. Provide emergency power outlets: As Indicated On Drawings, NEMA 20R single receptacles, self illuminated red with stainless steel or anodized aluminum cover plates, engraved "EMERGENCY POWER" with minimum 6 mm (1/4 inch) red filled letters.
 - e. Provide normal power outlets: As Indicated On Drawings, NEMA 20R single white receptacles. One of which is for the bed motor. Provide stainless steel or anodized aluminum cover plates.
 - f. Provide a Nurses Call audio-visual double bed station.
 - g. Provide a Tele-cart outlet with two jacks.
- I. All styles of the units shall have the following features:
- 1. Basic structural framework shall be constructed of heavy gage extruded aluminum or minimum 1.9 mm (14 gage) cold-rolled steel, designed to be a self-supporting unit for above-the-floor, for close wall mounting or a freestanding installation. For freestanding units, provide the framework with a base plate and overhead structural supports.
 - 2. Drill and tap the side frame members to permit the installation of front panel devices at modular intervals at any elevation between the top and bottom.
 - 3. Provide removable front panels:
 - a. Construct panel of the following materials:
 - 1) Fire retarding core material surfaced with a high pressure plastic laminated facing sheet.

- 2) Vinyl material heat and pressure applied over a minimum of 1.6 mm (0.060 inch) sheet aluminum back braced for rigidity and sound control.
- 3) Vinyl material heat and pressure applied over sheet steel minimum 1.6 mm (0.060 inch).
- 4) Vinyl material heat and pressure applied over sheet aluminum minimum 2.0 mm (0.080 inch).
- b. Color and texture shall be as specified in the Section 09 06 00, SCHEDULE FOR FINISHES.
- c. Bond the panel edges with an aluminum extrusion or cold-rolled steel trim designed for mounting directly to the structural framework, thus allowing the panels to be easily removed for access to internal components and for servicing of utility connections or future modifications. Secure panels with hidden screws or other means to offer an overall finished appearance. All exposed metal surfaces or trims greater than 4 mm (1/8 inch) wide shall be of anodized aluminum or stainless steel finished to resist abrasion and affects from hospital cleaning compounds.
- 4. Provide Style C units with enclosing back panels. Styles A1, A2, B1 and B2 need not have back panels, provided they are edge gasketed to the wall or totally and inconspicuously edge sealed to the wall with a resilient caulking material. Attach side and back panels [sheet steel, a minimum of 1.6 mm (0.060 inch)] or equivalent strength aluminum side and back panels, with flush screws to permit close wall mounting. Finish side panels to match or compliment the front panels. Match back panel for free-standing units with the finish of the front and side panels.
- 5. Mount patient service components in an equipment console made up of a backbox and finish fascia.
 - a. Use galvanized steel backbox with outlet gang openings on minimum 60 mm (2.4 inches) uniform centers to provide mounting supports of front panel devices. Provide removable metal barriers to separate voltage sources and to facilitate wiring between segregated devices within the same horizontal module.
 - b. Match finish, either anodized aluminum or stainless steel of all fascia and device face plates.

- c. Fascia and/or face plates may be omitted for power and grounding receptacles in the consoles if the receptacles are mounted flush in the PBPU cover panel and facilities (support members, tapped holes, spacing, etc.) are provided behind the panel for future addition or relocation of receptacles.
 - d. Provide smooth external surfaces having a finished appearance. Maintain adequate spacing of device plates and similar items to eliminate crevices and facilitate cleaning.
6. Provide patient services as indicated in paragraphs Styles above, the schematic wiring diagram shown on drawings, and as follows:
- a. Electrical components: Factory assembled and prewired to a sectionalized junction box at the top of the unit in accordance with circuiting and switching arrangements shown on the drawings. Factory assembled prewiring may be stranded in sizes AWG #10 and #12. Provide an equipotential ground bus with lugs suitable for connecting AWG #14 to AWG #6 conductors with a minimum of 48 screw-type terminals, unless otherwise shown.
 - b. Receptacles: Single Hospital Grade NEMA 5-20R, unless otherwise specified.
 - c. Provide medical gas components compatible with those installed elsewhere in the project that are factory assembled, manifolded and pre-piped, using medical grade copper pipe, to single point connections of each service at the top of the units.
 - d. Provide nurse call services consisting of provisions for adequate space and matching face plates for the equipment and empty conduit to the sectionalized junction box at the top of the unit.
 - e. Provide internal power and signal wiring in separate EMT, flexible metal conduits or approved raceway. Separate normal power circuits from emergency power circuits. Also, provide adequate supports for conduits and piping within the structural frame.
 - f. Telephone outlets/jacks: Plug-in type as approved by the VAMC.
 - g. Except for anodized aluminum and galvanized or stainless steel surfaces, clean and paint all other metal surfaces at the factory with primer and not less than two coats of baked enamel.

PART 3 - EXECUTION**3.1 INSTALLATION:**

- A. Installation shall be in accordance with NFPA 70 (NEC), NFPA 99, and as shown on the drawings.
- B. Compressed Air, Oxygen and Vacuum System Equipment:
 - 1. Install and test the equipment and piping system in accordance with the drawings and Section 22 62 00, VACUUM SYSTEMS FOR LABORATORY AND HEALTHCARE FACILITIES and Section 22 63 00, GAS SYSTEMS FOR LABORATORY AND HEALTHCARE FACILITIES.
 - 2. Install and make connections as required for a complete and operational patient wall system for each unit.

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