

SECTION 11 73 00
CEILING MOUNTED PATIENT LIFT SYSTEM

PART 1 - GENERAL**1.1 DESCRIPTION**

Ceiling Mounted Patient Lift Systems for the transfer of physically challenged patients are specified in this section.

1.2 RELATED WORK

- A. Section 01 00 00, GENERAL REQUIREMENTS: Requirements for pre-test of equipment.
- B. Section 13 05 41, SEISMIC RESTRAINT REQUIREMENTS FOR NON-STRUCTURAL COMPONENTS: Seismic requirements for non-structural equipment.
- C. Section 26 05 11, REQUIREMENTS FOR ELECTRICAL INSTALLATIONS: General Electrical Requirements and items, which are common to sections of Division 26.

1.3 QUALITY ASSURANCE

Certification for compliance is required for Ceiling Mounted Patient Lift Systems. Certifications shall be provided by an independent third party who will conduct testing to ensure that the ceiling lift and charging system are safe and in compliance with ISO 10535 & UL 60601-1 (ATC provided)

1.4 SUBMITTALS

- A. Submit in accordance with specification Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES.
- B. Certificates of Compliance
- C. Manufacturer's Literature and Data: (Submit for both Non-Bariatric and Bariatric Types).
 - 1. Lifting Capacity
 - 2. Lifting Speed
 - 3. Horizontal Displacement Speeds
 - 4. Horizontal Axis Motor
 - 5. Vertical Axis Motor
 - 6. Emergency Brake
 - 7. Emergency Lowering Device
 - 8. Emergency Stopping Device
 - 9. Electronic Soft-Start and Soft-Stop Motor Control
 - 10. Current Limiter for Circuit Protection
 - 11. Low Battery Disconnect System
 - 12. Strap Length
 - 13. All equipment anchors and supports. Submittals shall include weights, dimensions, center of gravity, standard connections,

- manufacturer's recommendations and behavior problems (e.g., vibration, thermal expansion,) associated with equipment or piping so that the proposed installation can be properly reviewed.
- D. Individual Room layouts showing location of lift system installation shall be approved before proceeding with installation of lifts.
- E. Close out documents shall include a completed "After Installation Check List for Ceiling Mounted Patient Lifts Performed and Documented by the Installer for VAPSHCS" which is attached to this section as Appendix A.

1.5 APPLICABLE PUBLICATIONS

- A. The publications listed below form a part of this specification to the extent referenced. The publications are listed in the text by the basic designation only.
- B. International Organization for Standardization (IOS):
10535-06.....Hoist for the Transfer of Disabled Persons-
Requirements and Test Methods
- C. Underwriters Laboratories (UL):
60601-1.....Medical Electrical Equipment: General
Requirements for Safety
94-2006.....UL Standards for Safety Test for Flammability of
Plastic Materials for Parts in Devices and
Appliances-Fifth Edition
- D. International Electromagnetic Commission (IEC):
801-2(1991).....Electromagnetic Compatibility for Industrial-
Process Measurement and Control Equipment-Part
2: Electromagnetic Discharge Requirements

PART 2 - PRODUCTS

2.1 CEILING TRACK SYSTEM

- A. The Ceiling Track shall be made from high strength extruded aluminum of thickness as recommended by patient lift system manufacturer for the applicable lifting capacity requirements. Provide anchor supports in quantities, types and spacing as shown or as per lift system manufacturer recommendation, whichever provides the greater level of safety for the intended lifting capacity. The ceiling track shall be finished with baked enamel paint. Supports must extend through interstitial space to underside of the structure metal deck and steel framing supporting the fifth floor.
- B. Provide Patient Lift Systems by the following or approved equal.
1. ArjoHuntleigh Maxi Sky 600 (non-bariatric) - 16 rooms
 2. ArjoHuntleigh Maxi Sky 1000 (bariatric) - 2 rooms

3. Salvage and reinstall ArjoHuntleigh units in existing corridors of 4th East wing - 2 locations.

2.2 LIFT UNIT

- A. The Lift Unit shall be constructed of a steel frame system (2205lbs / 1000kg tested) driven by a gear reduced high torque motor
- B. The Lift system shall have the following features.
 1. Lifting capacity: 600 lbs (272 kg) for non-bariatric rooms and 1,000 lbs (455 kg) for bariatric rooms.
 2. Electronic microprocessor soft-start and soft-stop motor control
 3. Emergency manual lowering device
 4. Emergency stopping device (pull cord)
 5. Current limiter for circuit protection in case of overload.
 6. Safety device that stops the motor to lift when batteries are low.
 7. Lifting speed: 2.3in/s (6 cm/s) at 0 lbs., 1.2in/s (3.0cm) in full capacity (non-bariatric)
 8. Lifting speed: 2.8in/s (7 cm/s) at 0 lbs., 1.2in/s (3.0cm) in full capacity (bariatric)
 9. Adjustable horizontal displacement speed: 10, 15, 20 cm/s
 10. Horizontal axis motor: 24VDC at 62 watts and vertical axis motor at 110 watts
 11. Emergency brake - double centrifugal (in case of mechanical failure)
 12. Strap length up to 90in (2.3m) tested for 2998lbs (1360kg)
 13. Cab: VO plastic-fire retardant, UL 94
 14. Wireless remote control
 15. LED Low Battery Disconnect Warning System

2.3 ELECTRICAL COMPONENTS

- A. Per manufacturer's standards to meet the required dead and live load.

2.4 BATTERIES

- A. The life cycle (number of charging cycles) for batteries shall be in compliance with IEC 801-2.
- B. Provide rechargeable batteries with average 150 cycles with a load of 165 lbs (75kg) non-bariatric and up to 40 transfers with its maximum load of 1,000 lbs (455kg) for bariatric.

2.5 CHARGER

- A. Charger Input: 100-240 Vac, 50/60 Hz /27Va.
- B. Charger Output: Per manufacturer's standard.
- C. Supplemental to the charger provide a clip on charging station with indicator lights.
- D. Automatic Return to charge function with clip-on charger at end of track.

2.6 STRAPS AND SLING

- A. The straps shall be made of threaded nylon. The straps shall ensure the patient's safety by preventing the patient from falling out of the sling.
 - 1. Provide one set of straps per track.
- B. The sling shall be made from a polyester/nylon net material that is pliable, breathable and easy to use. The sling shall cradle the body of the patient.
 - 1. Provide one sling set per track.

PART 3 - EXECUTION**3.1 INSTALLATION**

- A. Install ceiling mounted patient lift system as per manufacturer's instruction and under the supervision of manufacturer's qualified representative and as shown on drawings. A trained and certified manufacturer's installer must be on site at all times when work is being done on the patient lift system.
- B. If the distance in between the suspended ceiling and anchors is more than 18" consult with manufacturer to determine if lateral braces will be required.

3.2 INSTRUCTION AND PERSONNEL TRAINING

Training shall be provided for the required personnel to educate them on proper operation and maintenance for the lift system equipment.

3.3 TEST

Conduct performance test, in the presence of the Resident Engineer and a manufacturer's field representative, to show that the patient lift system equipment and control devices operate properly and in accordance with design and specification requirements. The attached "After Installation Checklist for Ceiling Mounted Patient Lifts Performed and Documented by the Installer for VAPSHCS" in Appendix A to this section must be completed and submitted for approval prior to final acceptance.

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