SECTION 11 73 00
Ceiling Mounted Patient Lift System

Part 1 – General

1.1 Description
Ceiling Mounted Patient Lift Systems.

1.2 Related Work
A. Section for General Requirements
B. Section for Seismic Requirements
C. Section for Electrical Requirements

1.3 Quality Assurance
A. Manufacturers: Companies specializing in type of equipment specified for a period of at least 5 years
B. Installers: Installers must be approved and hold current certification by manufacturer of equipment being installed.

1.4 Submittals
A. Submit Drawings in accordance with specifications
B. Certificates of Compliance
C. Manufacturer’s Literature and Data
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 disconnects 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. Vibrations and Thermal Expansions)associated with the equipment or piping so the proposed installation can be properly reviewed.

D. Individual Room Layouts showing location of lift system installation shall be approved before proceeding with the installation of lifts.

1.5 Applicable Publication

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 the 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. 94-1996…….UL Standards for Safety Test for Flammability of Plastic Materials for parts in devices and Appliances-Fifth Edition
D. International Electromagnetic Commission (IEC):
CISPR 11…….Industrial Scientific and Medical (ISM)Radio Frequency Equipment-Electromagnetic Disturbance Characteristics-Limits and Methods of Measurement-Amendment 2
801-2……..Electromagnetic compatibility for Industrial-Process Measurement and Control Equipment-Part 2 : Electromagnetic Discharge Requirements

Part 2 – Products

2.1 **Manufacturer**

A. Provide Products by Guldmann Inc.

2.2 **Track System**

A. The Track shall be made from high Strength Extruded Aluminum 6063ST/T66EN

B. The Track shall be anodized

C. The Track to contain liners to enable the hoist batteries to be charged anywhere within the system (Known as Continuous Charge or Constant Charge)

D. The Track to have optional built in profile to enable recessed rail installations

E. The Track to have the option of changing color or adding Graphic Designs with architectural inserts.

2.3 **Lifting Unit**

A. The lifting unit shall have the following features

1. Available Lifting Capacities shall be
   a. 770# with integrated scale, service and CLM modules
2. Electronic Soft Start and Soft Stop
3. Emergency Lowering (Both Electric and Manual)
4. Emergency Stopping

a. Slack Strap stop switch
b. Final up stop switch

5. Current Limiter for Circuit Protection
6. Safety device that stops the motor from lifting when batteries are low
7. Lifting Speed
   a. 440/550# (Empty 3.9in/Sec, Max Capacity 2.2in/Sec)
8. Horizontal Speed (12in/Sec)
9. Horizontal Axis Motor (24VDC)
10. Emergency Brake (in case of failure)
11. Strap Length (2.5meters)
12. Case and covers (impact Resistant UL 94V-O Flame Retardant)
13. Wireless Remote Control availability
14. Digital Scale Option (Integrated Digital Scale as not to compromise lifting height)
15. Usage Module Option (Integrated module to monitor staffs usage)
16. Service Module Option (Integrated Module to monitor Maintenance and safety inspections)
17. UL Certificate (Provide UL Certificate for entire system)
18. Protection Class IP 20
19. Sound Levels not to exceed 52db (a)
20. Lifting Units to have “quick release pins” in order to interchange hoists between rooms in the event that patient requires higher lifting capacity.

2.4 Motors

A. All motors shall be able to do more than 10,000 cycles in Compliance with IEC CISPR 11.

B. Vertical Movement (24V DC Motor)

C. Horizontal Movement (1- 24VDC Motor for single strap or 2-24VDC motors for Twin Strap Hoists)

2.5 Batteries

A. The Life Cycle for Batteries shall be in compliance with IEC 801-2

B. Batteries shall be 24V NIMH with 4 hour Max. Charging time.

2.6 Charger

A. Charger input to be 115 or 230VAC

B. Charger Output to be 33VAC 2.5 amps

C. Protection Classification IP 20

2.7 Straps and Hangers

A. Straps to be made of 1-7/8” wide Polyester

B. Straps to have “Cut off Switch” (45 degrees along the rail 10 degrees across the rail)

C. Break Strength of lifting strap to be at a minimum of 41.5 KN

D. Hangers to be removed and replaced without the use of tools

2.8 Hand Controls

A. Hand Controls to be Ergonomic and Intuitive

B. Hand Controls to have Data Port to Download Optional Module Information.

C. Hand Control to have Digital Screen to View optional Accessories (example: Digital Scale)

D. Protection Class IP 44

2.9 Slings and Accessories

A. Slings to be made of Polyester/ Nylon and easy to apply and remove.

B. Slings shall cradle the body of the patient and strap designed to prevent the patient from falling out.

C. Accessories to accommodate Transferring, Repositioning, Turning and Limb Support.

Part 3- Execution

3.1 Installation

A. Install Wall Mounted Patient Lift as per Manufacturer’s Instructions and as per facility approved drawings.

B. Consult with Manufacturer’s guidelines for mounting requirements.

C. Consult with Manufacturer’s guidelines for Isolation from other fixtures.

D. Ensure that Rails Systems are properly grounded to meet UL Requirements

3.2 Instruction and Personnel Training

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

3.3 Testing

A. Conduct a Weight Test in the presence of the resident engineer and the Manufacturer’s Representative at 1.5 times the “Safe Working Load” beneath each anchor point for a minimum of 5 minutes to ensure integrity of mounting hardware.

B. Conduct Performance Test in the presence of the resident engineer and the Manufacturer’s Representative to show that the patient lift system equipment and control devices operate properly and in accordance with the design and specifications requirements.

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