

## Section 11000 – Equipment (or 14600 – Hoists and Cranes)

### Part 1 – General

- 1.1 Experience: manufacturer shall have a minimum of 5 years experience producing substantially similar equipment.
- 1.2 Quality Assurance: manufacturer shall be registered ISO 9001:2000 compliant with an independent certification agency approved by the International Organization for Standardization.

### Part 2 – Products

#### 2.1 Davit Crane

- 2.1.1 Manufacturer: davit crane shall be as manufactured by Thern, Inc., Series 5PT30.
- 2.1.2 Design Factor: designed with an ultimate design factor greater than 2.6:1 for all components including the lifting winch and base.
- 2.1.3 Portability: davit crane shall break down into transportable components.
- 2.1.4 Lift Capacity: davit crane shall have a variable lift capacity based on boom length, to vary between 3000 pounds lift capacity with the boom in the shortest length, and 2400 pounds with the boom fully extended.
- 2.1.5 Hook Reach: boom shall telescope up to 5 different lengths allowing a maximum hook reach of at least 112 inches measured from mast center to hook center when boom is horizontal.
- 2.1.6 Hook Height: hook height shall be fixed or adjustable by moving the boom up or down between 0 and 40 degrees above horizontal, with a minimum of 87 inches between the lowest position and the highest position with the boom fully extended.
- 2.1.7 Boom Angle: boom angle shall be fixed or adjustable with a hand operated screw jack acting to raise or lower the boom between 0 and 40 degrees above horizontal.
- 2.1.8 Boom Sheave: wire rope shall pass over a sheave at the end of the boom. Sheave shall have a bronze bearing.
- 2.1.9 Clearance: minimum height of the boom shall be 62 inches between mounting surface and the underside of the boom in all base configurations.
- 2.1.10 Rotation: boom and outer mast shall rotate 360 degrees on tapered roller bearings and needle bearings, with a rotational handle attached to outer mast to facilitate rotation. Outer mast shall lock in one of 30 degree incremental positions with locking pin. Rotational stop option shall limit rotation in 30 degree increments.
- 2.1.11 Fastening Pins: crane components shall be fastened together using stainless steel clevis style pins.
- 2.1.12 Nametag: davit crane shall be labeled with a non-corrosive metal identification plate labeled or imprinted with the manufacturer's name, model number, serial number, capacity rating, and other essential information.

## 5PT30 Series Specifications



### 2.2 Crane Base

2.2.1 Manufacturer: crane base shall be as manufactured by Thern, Inc.

2.2.2 Interface: crane base shall allow for removal of the mast.

### 2.3 Crane and Base Finish

#### FOR STANDARD MODELS

2.3.1 Material: crane boom, mast and base shall be fabricated from steel meeting ASTM standards.

2.3.2 Finish: crane boom, mast and base shall have a corrosion resistant enamel finish.

#### FOR EPOXY FINISH

2.3.3 Finish: crane shall have a 3 step epoxy finish consisting of a primer, an epoxy coat, and a top coat of polyurethane.

### 2.4 Lifting Winch

#### FOR M452B-K FOR CRANE MODELS ENDING IN M1

2.4.1 Lifting Winch: winch shall have machine cut gears, an adjustable handle that mounts securely to the drive shaft, bronze and radial ball bearings, and a positive load holding Weston style brake able to stop and hold the load automatically if the winch handle is released.

#### FOR 4WS3M6-K1 FOR CRANE MODELS ENDING IN E5

2.4.1 Lifting Winch: winch shall have worm gearing operating in an enclosed oil bath, spur gearing, and a positive load holding spring set electrically released motor brake able to stop and hold the load automatically if winch operation is halted.

2.4.2 Motor: motor shall be totally enclosed non-ventilated or fan cooled, with anti-friction bearings and Class B insulation minimum. Motor shall be reversible with torque characteristics suitable for the hoist service and capable of operating at specified loads. Motor at rated frequency shall be capable of operating within 10% of rated motor voltage.

### 2.5 Wire Rope

2.5.1 Wire Rope: wire rope construction shall be 7 x 19 type 304 stainless steel cable.

2.5.2 Hooks: latch type hooks shall be used and shall be either non-rotating eye type or swivel type to allow 360 degree rotation under all load conditions. Hooks shall be heat treated drop forged type 304/316 stainless steel.