|  |  |
| --- | --- |
| 4,000 lb. Maximum Lifting Capacity**16,000 ft.-lb. Maximum Moment** |  |
|  |  |  |  |
|  |  |
| **Compliance to Specifications** | The Bidder shall indicate their compliance by checking "Yes" or "No" for each item specified. Any space not checked shall be interpreted as non-compliance and will result in disqualification of the bid. |
|  |  |  |  |
| **Make & Model** | **EHC-4 NexStar 20’ Boom** | **Comply to Specification** | Deviation from Specification |
|  |  | **Yes** | **No** |
|  |  |  |  |  |  |
| Capacity(Measured from Center of Rotation) | 4,000 lb. @ 4 ft. |  |  |  |
| 2,666 lb. @ 6 ft. |  |  |  |
| 2,000 lb. @ 8 ft. |  |  |  |
| (See full load and stability charts attached for reference) | 1,600 lb. @ 10 ft. |  |  |  |
|  | 1,333 lb. @ 12 ft. |  |  |  |
|  | 1,143 lb. @ 14 ft. |  |  |  |
|  | 1,000 lb. @ 16 ft. |  |  |  |
|  |  889 lb. @ 18 ft. |  |  |  |
|  |  800 lb. @ 20 ft. |  |  |  |
|  |  |  |  |  |
| Specifications & Standards | **Overall dimensions** (L x W x H) 141 in. x 20.63 in. x 24 in.  |  |  |  |
|  | **Weight** of crane shall not exceed 1040 lb. |  |  |  |
|  | Minimum **truck chassis** of:* 10,500 lb. GVWR
 |  |  |  |
|  | * 210,600 in-lb. RBM
 |  |  |  |
|  | **Paint** – Auto Crane White |  |  |  |
|  | **Compliance** with ANSI B30.5 standards and OSHA regulations concerning crawler locomotives and truck cranes (OSHA Title 29, Part 1910.180) |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **DC Power Unit** | Electro-hydraulic system consists of an electric motor driving hydraulic pump which Provides fluid power to:* Boom Lift / Lower
 |  |  |  |
|  | * Boom Extension / Retraction
 |  |  |  |
|  | * Rotation
 |  |  |  |
|  | * Hoist Up / Down
 |  |  |  |
|  | Electric motor – 12V DC series wound |  |  |  |
|  | Hydraulic:* Gear pump, .065 cu. in/rev. displacement
 |  |  |  |
|  | * 2.4 gallon nominal-capacity reservoir
 |  |  |  |
|  | System:* Set full by-pass relief @ 3,000 PSI
 |  |  |  |
|  | * Output: 1.0 GPM minimum @ 2,750 PSI @ 239 amps max.
 |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Boom – Lift** | Hydraulically actuated |  |  |  |
|  | **Lift angle** from -3° to 75° |  |  |  |
|  | **Lift cylinder**:* Double acting for smooth boom operation
 |  |  |  |
|  | * Counterbalance valve incorporated preventing unintentional boom dropping in the event of a hose failure
 |  |  |  |
| **Load Sensing** | * Pressure transducer sensing coupled with 3-axis true boom angle measurement relative to crane mounting surface and 3-axis true crane base attitude monitoring (truck level).
 |  |  |  |
|  | * Automatic 50% reduction of rotation speed while under load (slow rotate)
 |  |  |  |
|  | * In Overload condition, disable only hoist up, boom extend and boom down functions. Other functions shall remain operable
 |  |  |  |
|  | * In Low Boom Pressure condition, disable only boom down, swing CW and CCW, boom retract and extend, hoist up. Other functions remain operable (Anti-Bridging)
 |  |  |  |
|  |  |  |  |  |
| **Extension** | Hydraulically actuated by means of extension cylinder from 10 ft. to 16 ft. and manually actuated from 16 ft. to 20 ft. |  |  |  |
|  | **Extension cylinder**:* Trunnion mounted inside boom to protect from external damage
 |  |  |  |
|  | * Double acting for smooth operation
 |  |  |  |
|  | * Incorporates counterbalance valve to prevent unintentional boom retraction in the event of a hose failure
 |  |  |  |
|  | 4 ft. manual extension  |  |  |  |
|  | Total 20 ft. extension |  |  |  |
|  |  |  |  |  |
| Hoist | Hydraulically motor-driven planetary gear reduction with a load holding brake |  |  |  |
|  | **Rated** @ 2,000 lb. last layer capacity |  |  |  |
|  | **Line speed** of 20 ft./min. (single line) with no load |  |  |  |
|  | 80-ft. of .3125” diameter aircraft cable with 9,800 lb. **breaking strength** compliance to ANSI Standards |  |  |  |
|  |  |  |  |  |
| Sheave | Anti-friction, high strength polymer with maintenance free, sealed needle bearings |  |  |  |
|  |  |  |  |  |
| **Anti-two-block Preventer** | A bail type to reduce crown to hook distance. (Hanging block two-block sensor is **not** acceptable.) |  |  |  |
|  | When activated, shall disable hoist up, boom down and extend out functions |  |  |  |
|  | Located on the left side of the boom to protect it from tree limbs, etc. while traveling |  |  |  |
|  | Cable shall be contained in a high impact plastic case with a spring loaded cable reel |  |  |  |
| **Swivel Block** | * Heavy-duty type with hook with latch
 |  |  |  |
|  | * Provision for double line string up
 |  |  |  |
|  |  |  |  |  |
| Rotation | 370° rotation range |  |  |  |
|  | 40:1 worm gear set |  |  |  |
|  | * Provision for adjusting backlash between worm & gear
* **(Non-adjustable gear set is NOT acceptable.)**
 |  |  |  |
|  | * Turntable style slew bearings
 |  |  |  |
|  | Cycle speed – 38 sec. no load |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Hydraulic System** | **Main valve** – Mono-block type with individual cartridge valves for the crane functions for easy accessibility and serviceability |  |  |  |
|  | * Proportional Boom Up/Down
 |  |  |  |
|  | * Proportional Hoist Up/Down
 |  |  |  |
|  | * Proportional Rotation
 |  |  |  |
|  | * Non-Proportional Boom Ext/Ret.
 |  |  |  |
|  | * Manual Override on all functions
 |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Control System** | **Remote Control – FM Radio & Tethered Options:** |  |  |  |
|  | * Handheldremote control designed for one hand operation of crane functions.
 |  |  |  |
|  | * 2 joystick / 1 trigger configuration
 |  |  |  |
|  | * IP67 and CE certified remote
 |  |  |  |
|  | * 100% fully independent proportional function joystick or trigger control
 |  |  |  |
|  | * Integrated E-Stop button on remote
 |  |  |  |
|  | * Four distinct transmitter signal output settings to maximize control resolution for creep operation
 |  |  |  |
|  | * Transmitter shall have a color LCD readout providing the operator with feedback to allow explanation of current operating status
 |  |  |  |
|  | * Dock for remote charging and storage included
 |  |  |  |
|  | * Alkaline battery (AA x 3) backup included
 |  |  |  |
|  | **Remote Control – FM Radio:** |  |  |  |
|  | * Operates on a rechargeable, internal, lithium-ion battery
 |  |  |  |
|  | * Has an estimated 300 foot operating range
 |  |  |  |
|  | **Remote Control – Tethered:** |  |  |  |
|  | * 32 ft. communication cable included
 |  |  |  |
|  | **Receiver – FM Radio and tethered Remote*** Crane mounted and features
* IP65 rated
 |  |  |  |
|  | **See Options Section below for additional control configurations.** |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Warranty** | Manufacturer shall provide a **two-year limited warranty** against defects in materials and workmanship from the date of delivery |  |  |  |
|  |  |  |  |  |
| **Options**(Must be available as required) | **Paint –** provide code and desired color if other than standard |  |  |  |
| **Boom Support** shall be installed for the boom in a stowed position while in transit |  |  |  |
|  | **Outriggers:*** Shall be installed to increase stability and reduce the load on the truck springs while lifting
 |  |  |  |
|  | **Oil Temperature Sensor** to monitor crane hydraulic oil temperatures |  |  |  |
|  |
| **Notes:** |  |
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|  |  |
|  |  |
| **Submitted by:** |  |  | **Date:** |  |



Figure 1: EHC-4, 20’ Boom Load Chart