

# Bid Specifications – Telescopic Service Crane

**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	<u>EHC-4 NexStar 20' Boom</u>	Comply to Specification		Deviation from Specification
		Yes	No	
<b>Capacity</b> (Measured from Center of Rotation)  (See full load and stability charts attached for reference)	4,000 lb. @ 4 ft.			
	2,666 lb. @ 6 ft.			
	2,000 lb. @ 8 ft.			
	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.			
<b>Specifications &amp; Standards</b>	<b>Overall dimensions</b> (L x W x H) 141 in. x 20.63 in. x 24 in.			
	<b>Weight</b> of crane shall not exceed 1040 lb.			
	Minimum <b>truck chassis</b> of: <ul style="list-style-type: none"> <li>• 10,500 lb. GVWR</li> <li>• 210,600 in.-lb. RBM</li> </ul>			
	<b>Paint</b> – Auto Crane White			
	<b>Compliance</b> with ANSI B30.5 standards and OSHA regulations concerning crawler locomotives and truck cranes (OSHA Title 29, Part 1910.180)			
<b>DC Power Unit</b>	Electro-hydraulic system consists of an electric motor driving hydraulic pump which Provides fluid power to: <ul style="list-style-type: none"> <li>• Boom Lift / Lower</li> <li>• Boom Extension / Retraction</li> <li>• Rotation</li> </ul>			
	• Hoist Up / Down			
	Electric motor – 12V DC series wound			

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	Hydraulic:			
	<ul style="list-style-type: none"> <li>• Gear pump, .065 cu. in/rev. displacement</li> <li>• 2.4 gallon nominal-capacity reservoir</li> </ul>			
	System:			
	<ul style="list-style-type: none"> <li>• Set full by-pass relief @ 3,000 PSI</li> <li>• Output: 1.0 GPM minimum @ 2,750 PSI @ 239 amps max.</li> </ul>			

<b>Boom – Lift</b>	Hydraulically actuated			
	<b>Lift angle</b> from -3° to 75°			
<b>Load Sensing</b>	<b>Lift cylinder:</b> <ul style="list-style-type: none"> <li>• Double acting for smooth boom operation</li> <li>• Counterbalance valve incorporated preventing unintentional boom dropping in the event of a hose failure</li> </ul>			
	<ul style="list-style-type: none"> <li>• 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).</li> <li>• Automatic 50% reduction of rotation speed while under load (slow rotate)</li> <li>• In Overload condition, disable <u>only</u> hoist up, boom extend and boom down functions. Other functions shall remain operable</li> </ul>			
	<ul style="list-style-type: none"> <li>• In Low Boom Pressure condition, disable <u>only</u> boom down, swing CW and CCW, boom retract and extend, hoist up. Other functions remain operable (Anti-Bridging)</li> </ul>			

<b>Extension</b>	Hydraulically actuated by means of extension cylinder from 10 ft. to 16 ft. and manually actuated from 16 ft. to 20 ft.			
	<b>Extension cylinder:</b> <ul style="list-style-type: none"> <li>• Trunnion mounted inside boom to protect from external damage</li> <li>• Double acting for smooth operation</li> <li>• Incorporates counterbalance valve to prevent unintentional boom retraction in the event of a hose failure</li> </ul>			
	4 ft. manual extension			
	Total 20 ft. extension			

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<b>Hoist</b>	Hydraulically motor-driven planetary gear reduction with a load holding brake			
	<b>Rated @</b> 2,000 lb. last layer capacity			
	<b>Line speed</b> of 20 ft./min. (single line) with no load			
	80-ft. of .3125” diameter aircraft cable with 9,800 lb. <b>breaking strength</b> compliance to ANSI Standards			
<b>Sheave</b>	Anti-friction, high strength polymer with maintenance free, sealed needle bearings			
<b>Anti-two-block Preventer</b>	A bail type to reduce crown to hook distance. (Hanging block two-block sensor is <b>not</b> 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			
<b>Swivel Block</b>	<ul style="list-style-type: none"> <li>• Heavy-duty type with hook with latch</li> <li>• Provision for double line string up</li> </ul>			
<b>Rotation</b>	370° rotation range			
	40:1 worm gear set			
	<ul style="list-style-type: none"> <li>• Provision for adjusting backlash between worm &amp; gear</li> <li>• <b>(Non-adjustable gear set is NOT acceptable.)</b></li> <li>• Turntable style slew bearings</li> </ul>			
	Cycle speed – 38 sec. no load			
<b>Hydraulic System</b>	<b>Main valve</b> – Mono-block type with individual cartridge valves for the crane functions for easy accessibility and serviceability			
	<ul style="list-style-type: none"> <li>• Proportional Boom Up/Down</li> <li>• Proportional Hoist Up/Down</li> <li>• Proportional Rotation</li> <li>• Non-Proportional Boom Ext/Ret.</li> <li>• Manual Override on all functions</li> </ul>			

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<b>Control System</b>	<b>Remote Control – FM Radio &amp; Tethered Options:</b> <ul style="list-style-type: none"> <li>• Handheld remote control designed for one hand operation of crane functions.</li> <li>• 2 joystick / 1 trigger configuration</li> <li>• IP67 and CE certified remote</li> <li>• 100% fully independent proportional function joystick or trigger control</li> <li>• Integrated E-Stop button on remote</li> <li>• Four distinct transmitter signal output settings to maximize control resolution for creep operation</li> <li>• Transmitter shall have a color LCD readout providing the operator with feedback to allow explanation of current operating status</li> <li>• Dock for remote charging and storage included</li> </ul>			
	<ul style="list-style-type: none"> <li>• Alkaline battery (AA x 3) backup included</li> </ul>			
	<b>Remote Control – FM Radio:</b> <ul style="list-style-type: none"> <li>• Operates on a rechargeable, internal, lithium-ion battery</li> <li>• Has an estimated 300 foot operating range</li> </ul>			
	<b>Remote Control – Tethered:</b> <ul style="list-style-type: none"> <li>• 32 ft. communication cable included</li> </ul>			
	<b>Receiver – FM Radio and tethered Remote</b> <ul style="list-style-type: none"> <li>• Crane mounted and features</li> <li>• IP65 rated</li> </ul>			
	<b>See Options Section below for additional control configurations.</b>			
<b>Warranty</b>	Manufacturer shall provide a <b>two-year limited warranty</b> against defects in materials and workmanship from the date of delivery			
<b>Options</b> (Must be available as required)	<b>Paint</b> – provide code and desired color if other than standard			
	<b>Boom Support</b> shall be installed for the boom in a stowed position while in transit			
	<b>Outriggers:</b> <ul style="list-style-type: none"> <li>• Shall be installed to increase stability and reduce the load on the truck springs while lifting</li> </ul>			

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	Oil Temperature Sensor to monitor crane hydraulic oil temperatures			
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**Submitted by:** \_\_\_\_\_

**Date:** \_\_\_\_\_

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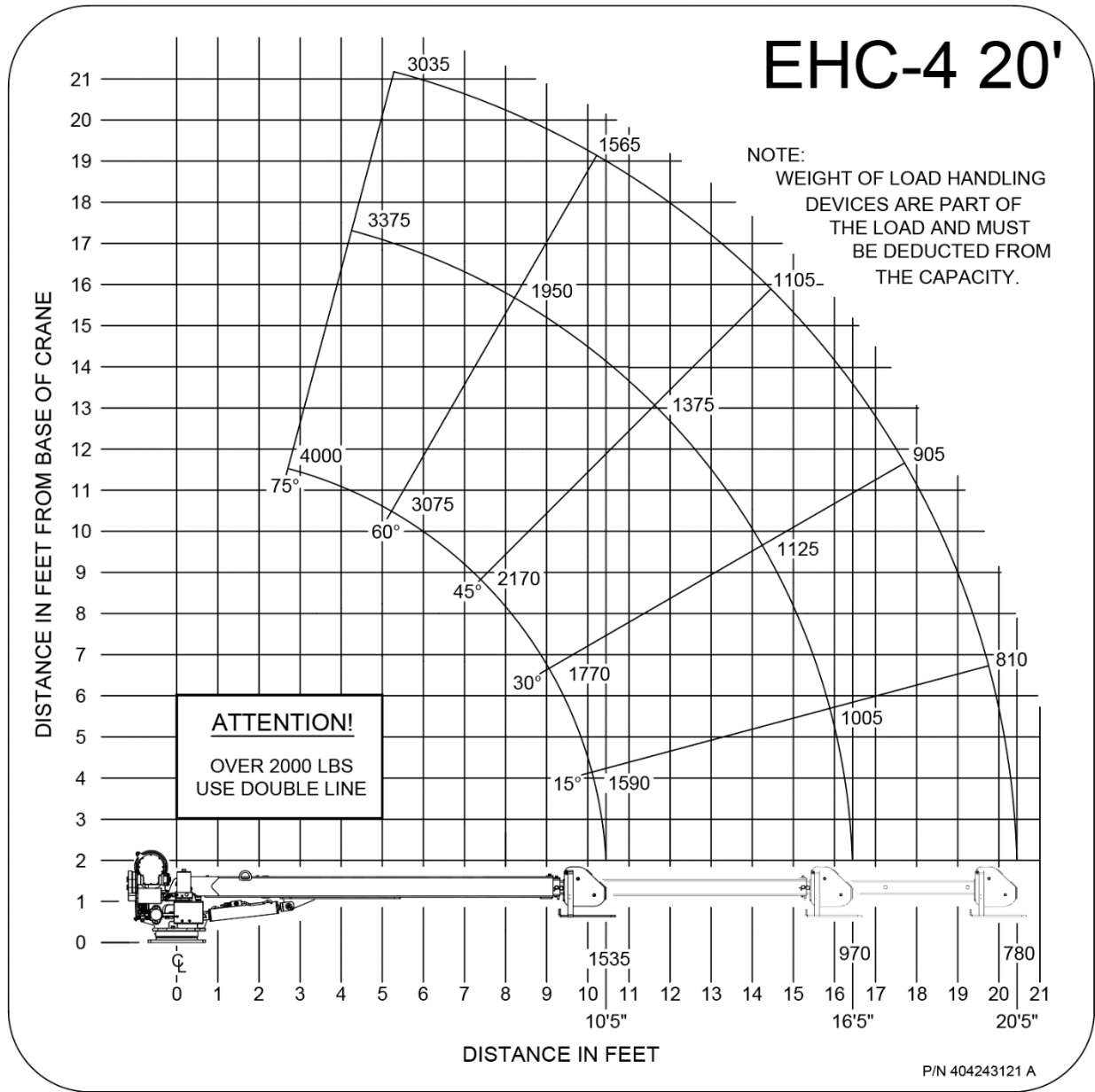


Figure 1: EHC-4, 20' Boom Load Chart