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Technical Specification of 25 Ton Synchronized Screw Jack

Requisition No. – 63721021

Dated – 15.01.2014

Major Parameter	1.0 Purpose & Capability		i) To lift the wagons during maintenance work. ii) Equipment shall be capable of lifting wagons weighing upto 100 Ton.
	2.1	Design Features	1) The jacks should be of robust design, rigid & of sturdy construction.
			2) Lifting speed of equipment - 200 mm/min (approx).
			3) Maximum height of claw from ground - 2150 mm.
			4) Minimum claw height from ground level- 785 mm.
			5) Claw projection from center of beam – 540 mm approx
			6) Height of Jack – 3000mm (Maximum)
7) Length of Jack – 1350 mm (Maximum)			
2.2	Load nut	Should be of Al Bronze IS 305 Grade ABI . A safety steel nut should also be provided as a safety device under the load nut to prevent any accidental falling of load. If the load nut wears or breaks then the safety nut acts as a support & should takes the load.	
2.3	Screw Rod	The Screw rod should be of High Quality Steel single start, buttress thread in accordance with IS 4696 It should be Axially free at bottom & splined to the worn wheel & fitted with heavy duty ball thrust bearing having spherical seated housing.	
2.4	Frame	The frame should be fabricated from High quality steel confirming to IS 226/2062. It should be suitably webbed & strengthened with stiffeners & securely welded to the heavy base. The base should be of large area to prevent sinking of the jack into the shop floor while lifting the Wagon Body. The upright column should be fully machined and ground for smooth movement of the lifting claw:	
2.5	Lifting Claw carriage	The lifting claw carriage should be of fabricated steel designed for lifting under the side of the vehicle & should run on the vertical carriage guides provided on frame. The carriage should be mounted on suitable alloy steel rollers fitted with anti friction bearings. The lifting claw should be provided with a chequered plate. The vertical downward load on the lifting claw is countered by set of trolleys mounted on the carriage against upward frame.	


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	2.6	Other features	<p>1. The jacks should have mobility & it should be provided with 3 steel wheels of adequate strength and mounted in such a manner that when the claw carriage is moved upwards under load, the wheels will be automatically raised & the base of the jack sits firmly on the floor, similarly when the claw carriage is lowered & the jack is released the wheels will automatically be lowered to rest on the floor so that the base should be raised to provide the ground clearance.</p> <p>2. The jacks should be of robust, rigid in construction.</p> <p>3. The jacks should be driven by motor of 415v, 3 phase 50cycle AC supply. The power transmitted from motor through oil immersed reduction gear system, & also each jack should be provided with suitably made hand driven manual handle in case of power failure.</p>
	2.7	Control Panel & Electric system	<p>1. A master control should be provided to control either all the four jacks synchronously in group or individually.</p> <p>2. Electric control equipped with</p> <p>a. Necessary safety measure for synchronous operation.</p> <p>b. Emergency Push Button to stop the jacks also one push button on each jack.</p> <p>c. When all the jacks are operating synchronously all the jacks will stop immediately. If it fails overload release will come into action restricting overloading of other jacks.</p> <p>d. In case of power failure the jacks will automatically go into lock position.</p> <p>e. Electrical limit switches should also be provided on each jack at the extremities of the lifting claw travel.</p> <p>f. Each jack should be supplied with electric cables for the connection with the Panels not less than 15M.</p>
Minor Parameter	3.0		Nil
Concomitant Accessories	4.0		15 mtr long connecting cable required to connect machine from source of supply.
Optional Accessories	5.0		As recommended by supplier.
Spares	6.0		Two years maintenance spares is required such as sprocket, chain limit switches hence one set of each consisting of 2 no. is required with the machine.
Warranty	7.0		24 months from the date of commissioning and proving out of M&P.

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Annexure-II

To be submitted by the firm along with offer-

Tender specification as per Annexure-I	Specification quoted by the firm	Deviation if any with clarification

Signature of firm's