

BHARAT HEAVY ELECTRICALS LIMITED
RAMACHANDRAPURAM :: HYDERABAD - 502 032

	DESCRIPTION	BHEL SPECIFICATION	SUPPLIER OFFER	DEVIATIONS/COMMENTS
A	MAIN PARAMETERS			
A.1	Type of Crane	Individual Pillar mounted Jib Crane of 1T SWL - Electric Hoist and Electric Trolley and Electric swivelling		
A.2	Application/ Location	Clean room application (Dust free enclosure). Care to be taken - not to generate particles during crane operation/ Indoor use		
A.3	Operating environment	The crane operation environment will be a Clean room (Designed as Class7 and operated as Class8 as per ISO 14644-1.)		
A.4	Class & duty	M5 class, Medium duty		
A.5	Applicable Standards	IS807, IS3938		
A.6	Hoist capacity	1 Ton		
A.7	Arm Length	4 m		
A.8	Height of Lift	5 m		
A.9	Operating speed - Cross Travel	3m/min		
A.10	Operating speed - Hoist	3m/min		
A.11	Total height of Jib Crane (Lift height+Head room)	7.3 m (Note that roof height of DFE is 7.5m)		
A.12	Vertical distance from slab to top of jib crane	0.2m		
A.13	Swivel angle	270 degrees		
A.14	Electrical supply	3 Phase 415V, 50 Hz		
A.15	Crane operation - pendent operated	Pendant operation required with two steps (100% and creep speed 10%)		
A.16	Type of Motors	Squirrel cage motors with VFD drive (ABB make only -for spares compatiability)		
A.17	Duty cycle	60% CDF		
A.18	Type of Brakes	Brake motor for Hoist and CT		
A.19	Gearboxes	Built in gearbox with motor (less particle generation is suitable for cleanroom application)		
A.20	Earthing	Double earthing to be provided for all the electrical equipment		
A.21	Painting	The crane should be painted with two coats of deep orange paint confirming to IS 2932 : 2003, ISC No 591 (as per IS 5) after giving primary coat. The frame shall be shot blasted / Chemically treated before painting.		
A.22	Connection to pendent			
A.23	Environment	All equipment shall be tropicalised to operate in normal shop floor conditions of temperature 10 to 40 ° C and maximum relative humidity of 95 %.		

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A.24	Manufacturer's reference list	The manufacturer should have manufactured, at least 1 Nos. of Jib Cranes of 1T or higher capacity and with span $\geq 4m$ mm (of Class M5) in the last 7 years as on date of enquiry. List of these cranes to be furnished with names of contact persons, telephone and FAX nos. and e-mail IDs. The supplier should furnish copies of the purchase orders and commissioning reports or performance certificates issued by the customers as documentary proof of the above.		
A.25	List of drawings/documents for approval before manufacture of crane.	General Arrangement (GA) drawing of crane		
A.26		Assembly drawings of the hoist		
A.27		Quality Plan		
A.28		Electrical circuit diagram of the Crane		
A.29	List of drawings/documents to be submitted at the time of inspection of crane at supplier's works and at BHEL	Test certificates of all boughtout items like hooks, steel plates etc to be provided. The Crane should be certified by "Competent person" as per <i>Telangana Factories Act/Law</i>		
A.30		1 No. spare parts manual		
B	TESTING/INSPECTION			
B.1	After manufacture	Will be checked/inspected by BHEL/third party appointed by BHEL. The crane will be checked for all functions and operations.		
B.2	Clearance for despatch	The equipment shall be despatched only after testing/inspection at supplier's works and on written clearance from BHEL		
C	ERECTION & COMMISSIONING			
C.1	Foundation to Pillar	Vendor need to provide drawing of foundation of pillar of Jib crane. Accordingly BHEL will prepare foundation.		
C.2	E&C of Crane	Part of supplier's scope.		
C.3	Material (lifting equipment, lifting tackles, etc) required during erection and commissioning	Part of supplier's scope. All lifting machines/tackles to be inspected and certified by "Competent Person" as per <i>Telangana Factories Acts/Laws</i> before use.		
C.4	Load test	To be done as per relevant IS standards. Load will be provided by BHEL		
C.5	Test certificate for crane	Part of supplier's scope. To be inspected and certified by "Competent Person" as per <i>AP Factories Rules/Acts/Laws</i> before use.		
C.6	Terms and Conditions during installation	During installation, the terms and conditions to be followed by the contractor are as per document M&S/Cranes/Terms/E&C enclosed.		