

**TECHNICAL SPECIFICATIONS AND OTHER ALLIED REQUIREMENTS**

SI No.	Description of items	Quantity
PUR/280/CAMM/MP/E/2020-21		
1	DESIGN MANUFACTURING, SUPPLY, INSTALLATION & COMMISSIONING OF 3T. CAPACITY SINGLE GIRDER RUBBER TYRE GANTRY CRANE HAVING 6 METERS SPAN AND 5 METER HEIGHT OF LIFT FLOOR OPERATED WITH PENDENT PUSH BUTTON TYPE (CLASS – II) MEDIUM DUTY FULLY ELECTRIC OPERATED WITH 15 MTR. ELE. CABLE (DETAILS AS PER ANNEXURE – A & B )	1 No.

**1. INSTALLATION, COMMISSIONING, ERECTION AND TRAINING**

- 1.1. The ordered goods are to be installed within 45 days of receipt of goods at CSIR- CMERI, DURGAPUR- 713209, WEST BENGAL. Installation should be carried out only by expert engineers of Supplier / Manufacturer at Free of Cost basis. During the course of installation, necessary training on operation and maintenance of the goods shall be imparted to Institutes Scientist / Engineers/Technicians.

**2. WARRANTY**

- 2.1. Comprehensive on-site warranty for a period of two year must be provided to be effective from the date of successful Installation, Commissioning and Training and final acceptance of the items / equipment at the user's laboratory / Institute.

**3. PERFORMANCE SECURITY**

- 3.1 3 % of the Invoice Value.

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### 4. QUALIFICATION CRITERIA

4.1 Bidder (or its OEM) must have successfully commissioned a similar item (at least 3T and above) at any government organisation ( at least three nos.) in at least one of the last five years as on date of bid opening.

### 5. PAYMENT

5.1 80% against delivery + inspection, 20% against commissioning and training and after submission of Performance Security & Quality check report..

**(Note: The above mentioned payment term will be read and applicable in place of payment term mentioned in GCC & SCC)**

### 6. Load Test

6.1 For load testing at site necessary Loads & Slings will be arranged at CSIR-CMERI.

**Annexure -A****Technical Specifications ( 3t. CAP. SINGLE GIRDER GANTRY CRANE)**

No.	Descriptions	Specifications
1	Equipment	3t. Cap. Fully Ele. Operated Single Girder Gantry Crane
2	Capacity (S.W.L)/Test Load	3t. / 125%
3	Span	Min 6 Meters
4	Height of Lift	Min 5 meters
5	Duty & Class	Class-II, Medium Duty
6	Type	Single Girder
7	Locations	Indoor
8	Wheel Base	2.5 meter min
9	Preferred Speed	All speed variation will be 10%
	Main-Hoisting	3 meter per minute or more
	C.T.	10 meter per minute or more
	L.T.	10 meters per minute or more
10	Ele. Motors	All motors should be Crane duty ( S4), 40% CDF, 150 Start/hour, IP-55 with Class F Insulation
	Main-Hoisting	Squirrel cage type ; Power 3 HP or more
	Aux- Hoist	N.A.
	C.T.	0.75 HP or more , Squirrel cage with VFD, 1nos.
	L.T.	0.5 HP or more , Squirrel cage with VFD, 1nos.
11	Brakes	All brakes are automatically released when the motor circuit is on and is applied the motor circuit is off.
	Main-Hoisting	Electro Magnetic Disc Type
	C.T.	Electro Magnetic Disc Type
	L.T.	Electro Magnetic Disc Type
12	Wire Rope	High grade wire rope
	Main Hoist	12 mm x2 fall min required
13	Total Connected load	4.75 HP.
14	Wheel load / With Impact	1.9 to 2.2 Ton
15	Wheels	The wheels of the trolley & the end carriages shall be forged steel materials. Should be fitted with antifriction bearings and have the ease of maintenance.
16	Crane Travel length	20 meters ( accordingly electrical cable should be provided)

# Annexure- B

No.	Descriptions	Specifications
1	Codes and Standard	IS800: Code of practice for general construction in steel IS807: Code of Practice for Design, Erection and testing (Structural Portion) of Cranes and Hoists IS3177: Code of Practice for Electric Overhead Travelling Cranes and Gantry Cranes other than Steel Work Cranes (Mentioned details are preferable)
2	Construction of crane	
	End Carriages	The End Carriages should be welded construction type and fabricated from plates or Std. section type constructions.
	Bridge Girders	The girder should of plate fabricated box type construction design to sustain all stresses arising due to vertical & lateral forces with impact to which they are subjected. The maximum allowed deflection of the main girder limited to $1/750$ the span of live loads including the weight of the trolley or hoist. (for Small span standard I Beam can be used instead of plate fabricated girder) (Mentioned details are preferable)
	End Stopper	Steel end stoppers should be provided on either side of the bring to limit the motion of the trolley. All the buffers will employ springs for shock absorption.
	Steel	Steel confirming to IS-2062 or equivalent should be used in the manufacturing of the main load bearing.
3	L.T. Drive System	Twin drive type.
4	Gearboxes	All gear boxes should have high strength carrying capacity.
5	Rope Drum	The rope drum should be mild steel fabricated construction having right and left hand spiral grooves machined to suit the hoisting ropes. The drum Should have such length that there is not more than one layer when rope is full wound.
6	Bottom Block	Bottom Block Assembly should consist of forged steel hook single shank type as per IS 3815 mounted on thrust Ball Bearings, with required diameter rope sheave and hook plates made out of steel. (Mentioned details are preferable)
7	Wheels	The wheels of the trolley & the end carriages shall be forged steel materials. Should be fitted with anti friction bearings and have the ease of maintenance.
8	Couplings	Half Geared Couplings with reputed make
9	Bearings	All moving parts of the cranes should be supported on the anti friction type ball/roller bearings. (all bearings should be SKF/FAG/URB or equalant make)
10	Painting	Should have the anti corrosive chemical treatment + two coats of red oxide + two coats of synthetic high grade paints (Mentioned details are preferable)

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11	Supply Voltage	415, 3ph., 50hz., Supply or equivalent
12	Control Voltage	110V or relevant
13	Ele. Panel	
	Switch Gears	Panel should provide with main incoming breaker/ switches, transformer, contactor etc. MCB should provide in the control circuit of each motion. Each brake circuit should provide with a suitable contactor. Rating of contactor selected for any mechanism should be 50% higher than the respective motor full load current for the mechanism duty cycle. Reversible directional contactors should have interlocked facility. Siemens or approved equivalent Contactors, switches should be Provide in Ele. Panel. (Mentioned details are preferable)
14	Push Button	Movable pendent should be provided for floor operated cranes with separate cable track system. Pendent push button hanging with chain or wire rope should also be provided.
15	Ele. Cables	Flexible Copper Cable of Polycab/RRKabel /KEI or reputed make
16	Cross Traverse Cable	Cable Festoon along span of Crane.
17	Limit switches	One numbers geared type rotary limit switch of reputed make should be provided to prevent over lowering & over hoisting. And two nos. two lever type limit switches should be provided for L.T. & C.T. Motion.

*Atul*  
2/12/2020