



केन्द्रीय रेशम प्रौद्योगिक अनुसंधान संस्थान
केन्द्रीय रेशम बोर्ड
(वस्त्र मंत्रालय- भारत सरकार)



बी.टी.एम. लेआउट मडिवाला बेंगलूरु- 560068

**CENTRAL SILK TECHNOLOGICAL RESEARCH INSTITUTE
CENTRAL SILK BOARD**

(Ministry of Textiles - Govt. of India)

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No.CSB/CSTRI/12 (14)/2006-Stores

Date : 17.06.2022

To

Sir,

Sub: Inviting Quotations for procurement of **CSTRI Multiend Reeling Machine (two basin Capacity) & CSTRI Re-Reeling Machine (2 Window Capacity)**
- Reg.

With reference to the subject cited above, I am to inform that this Institute invites quotation for supply of **CSTRI Multiend Reeling Machine (two basin Capacity) and CSTRI Re-Reeling Machine** as mentioned below:-

#	NAME OF THE EQUIPMENT	QTY	DESTINATION
1	CSTRI Multiend Reeling Machine (two basin capacity) CSTRI Re-Reeling Machine (2 Window Capacity) Detailed Specification as enclosed	1 No. each	Scientist `D`, Silk Testing Service Centre, CSTRI, Central Silk Board, Silk Park, First Floor, Prem Nagar, Dehradun-248007

TERMS & CONDITION :

1. The quotation in **two bid (Technical Bid & Financial Bid)** system should be uploaded in e-procurement portal only. ([website www.eprocure.gov.in](http://www.eprocure.gov.in)). The last date for upload the bid is **18.07.2022 upto 1 P.M.** and the bid will be opened on **19.07.2022 at 2 P.M.**
2. The rates quoted should be valid for 180 days. The equipment should be supplied within **90 days** from the date of purchase order.
3. The equipment should be supplied to **Scientist `D`, Silk Testing Service Centre, CSTRI, Central Silk Board, Silk Park, First Floor, Prem Nagar, Dehradun-248007**
4. The Other Important Documents (OID) as sought in the e-procurement portal site should be submitted along with technical bid.

P.T.O.

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5. The bidder has to furnish the basic rate, excise duty (if any), GST (if any), Freight Charges including Insurance (if any), Packing & forwarding charges (if any) Erection & Commissioning charges (if any) any other taxes/duties/levies (if any) in the financial bid.
6. The bidder should submit the duly filled **Bid Securing Declaration** form alongwith the quotation (as per the format enclosed) in lieu of EMD.
7. The Supplier shall provide Warranty/Guarantee valid for a minimum period of 12 months from the date of installation of the equipment / machineries. Any defects noticed in the equipment /machineries which is unintentional shall be set right by the supplier at free of cost for good performance of the equipments.
8. The equipment should be supplied strictly in conformity of the above specifications, failing which, the equipment has to be taken back at your own cost.
9. For delay & non supply of the item within the stipulated time, liquidated damages @ 0.5% per week will be deducted from the bill subject to a maximum of 10% of the total cost of the equipment..
10. The performance security equivalent to 3% of the total contract value in the form of Bank Guarantee issued by any Nationalized Bank which shall be valid till three months after the expiry of the Warranty period should be furnished to this Institute within 10 days from the date of receipt of purchase order in the prescribed format.
11. No advance payment will be made. The payment will be released only after delivery of the equipment in good condition as per our specification, Erection and commissioning
12. **The bidders should submit the Bank Details i.e. Bank A/c.No., Bank Name, Branch, IFSC code. Mobile No. eMail ID Etc. along with quotation**
13. **Only Class I local supplier and Class II local supplier shall be eligible to participate in this tender as per the Public Procurement (preference to make in India) Order 2017 dated 16th September 2020**
14. The applicable GST-TDS will be deducted as per the prevailing rules.
15. The Director, CSTRI, Bangalore reserves the right to accept any quotations or reject all the quotations without assigning any reason. The decision of the Director is final and no correspondence will be entertained from any party in this regard.

Yours faithfully,


(डॉ. सुभास वी नायक / Dr. SUBHAS V NAIK)
निदेशक \ DIRECTOR

① SPECIFICATIONS FOR CSTR MULTIEND REELING MACHINE(TWO BASIN)

1. FRAME:

- a) Cast iron frame made of k-20 material, Bottom frame, Centre frame, and Top frame with two side brackets weighing minimum 60 to 63 Kg, machined wherever necessary.
- b) Each of the frame to its length is tied up with 16 mm MS rod, 3 numbers, (Two bottom and one top).

2. MOTOR AND DRIVE ARRANGEMENT:

- a) 1 H.P. 960 rpm, 380 / 440 volts 3phase, 50 cycles induction motor shall be provided as per BIS specifications. The motor shall be from ISO certified companies.
- b) The drive arrangement shall be covered by 20gauge M.S. sheet with locking system.

3. MAIN SHAFT:

- a) 25mm main bright shaft fitted with self-aligning sealed type pillow block ball bearings.

4. TRANSMISSION MECHANISM:

- a) Fitted with V belt B section (ISI mark) chain & M.S. sprockets, EN-8 metal helical gear, CI gear and Nylon gears. The gears should be hobbled and hardened wherever necessary to minimize wear and sound.
- b) All moving parts in the machine such as gears, 'V' pulleys shall be tightened by high tensile fasteners of standard make.

5. REELING BASINS:

- a) 10 reeling ends shall be accommodated in each basin and distance between ends (between the jetteboutte centres) shall be 105 mm.
- b) Made of Salem stainless steel, 304 grade with inner dimensions measuring length 42", width 15" & height 4" weighing minimum 6 kgs, with water holding capacity of 42 litres. The 3 sides of the basin are 20 mm square fold finished.
- c) Basin over flowing water arrangement connected with brass or Nylon nipples.
- d) Reeling basins with four partitions for the working convenience made of stainless steel.
- e) Each basin fitted with two stainless steel vessels (Bowl) for keeping silk waste and basin refuse.
- f) The S.S Reeling basin is positioned over the bottom frame using 1 ½" X ¼" M.S. Angle.
- g) From the top, reeling basin is positioned at a height at 32" from floor level.
- h) Drain out nut of 25 mm size made of polypropylene or nylon material shall be provided for each basin.

6. STEAM PIPES:

- a) Steam inlet is fitted with 1" M.S. pipe with 1" IBR steam valve with SS working parts and all the steam pipe lines and connected fittings should resist 35Kg/cm² (500lb/inch²) hydraulic test pressure.
- b) Steam pressure gauge 0 – 7 kg/cm² capacity is provided with siphon pipe.
- c) 1 ¼" "C" class M.S. pipe for steam line with 3/8" or 1/2" S.S. Ball Valve, inter connected with 3/8" X 20G copper pipe, Brass flair union and M.S. Fittings with perforations 3/8" 20 gauge copper tube for providing steam to reeling basin. The copper steam pipe shall be tapered towards end and have 3 mm diameter holes. The holes shall be at the side of the steam

pipes. All the steam pipe lines and connected fittings should resist 35 Kg/cm² (500lb/inch²) hydraulic test pressure.

- d) For draining out the condensed water, ½" IBR wheel valve with M.S fittings provided at the end of the machine. All the steam pipe lines and connected fittings should resist 35 Kg/cm² (500lb/inch²) hydraulic test pressure.

7. WATER PIPES:

- a) Water inlet pipe shall be fitted with 1" G I pipe along 1" G.M. plug cock.
- b) 1 ¼" "C" class G.I. Pipe for water line, with 3/8" or ½" S.S. ball valve inter connected with 3/8" X 20 G copper pipe and brass flair union with G.I. Fittings fitted on basin tray.
- c) Steam & water pipes are fitted 1 foot over basin tray, to avoid corrosion.

8. BUTTON AND BUTTON CLIP:

- a) Good quality ceramic reeling buttons (20 Nos.) shall be supplied along with reeling machine. Brass or S.S button clip mounted on brass or SS L Clamp flexible in motion to avoid breakage of yarn due to interruptions by slugs in reeling

9. JETTEBOUTE ASSEMBLY:

- a) 10 numbers of jetteboutes shall be fitted in a panel made with 18-gauge stainless steel structure weighing minimum 1.9 kg and brass / Nylon bushes for holding the Jetteboute axel tightened with 5 mm S.S. Screws and distance between jetteboutes' centre shall be 105mm .
- b) Jetteboute two wings type made of Nylon-6 material fitted with stainless steel axel of 8 mm bore – (7 – 8 mm diameter bore) with its bottom & top position, outer and inner end chamfered and polished.
- c) Jockey pulley – 32 mm 7 Nos., 50 mm – 1 No., fitted with brass bolt & nut and nylon or stainless steel flat.
- d) Driven by polyurethane 5 mm round belt.
- e) Clutch type engage and disengage arrangement fitted in a C.I gear box, comprising, EN-8 axel, ball-bearings 2 numbers, EN-8 helical/bevel gears and 4" V pulleys made of Gun metal/Derlin / Norzile .
- f) Jetteboutte revolution 700 to 800 RPM. Jetteboute speed should be de-linked from the reel speed.
- g) Jetteboute mounted panel should not vibrate during reeling operation.

10. REELS AND DRIVE MECHANISM:

- a) Reel made of Nylon 6 material shall be of 100 mm in breadth, 670 mm to 680 mm in circumference with 10 or 12 ribs weighing 500 – 600 grams. 10 reels on basin, 10 reels as spare, (20 reels for each basin).
- b) Reel stand with 5/8" M.S. Rod fitted on MS base to keep 10 spare reels with spring and bottom portion machined.
- c) Auto individual reel stop device model A/B made of Nylon-6 material to prevent breakage of silk yarn while reeling.

MODEL A: Automatic reel stop motion consists of Nylon 6 long arm with MS bracket and magnetic stop. The rubber bush at the back fitted for stopping the reel and easy reverse rotation of reels for knotting.

MODEL B: Automatic reel stop motion device consists of M S bracket powder coated with Nylon 6 / SS long arm and levers. The rubber bush at the back fitted for stopping the reel and easy reverse rotation of reels for knotting.

- d) S.S. Reel shaft 32mm O.D. Hollow shaft or 25mm solid, 12 mm ~ 15 mm sealed ball bearings fitted on both ends with Nylon gears, locked with G.M. cone nut.
- e) Driving device for reel bar, with clutch type engage and disengage movement fitted in a C.I. gear box comprising EN-8 axel ball bearings 2 Nos., M.S. sprocket gears CI / Nylon gears with phosphorous bronze bush driven by chain.
- f) For housing the reel bar, self-locking system shall be provided in the reel gear box.
- g) Reel top, bottom and back covered by minimum 24 gauge M.S. sheet.
- h) Nylon reel button, spring and the groove made on the reel shaft should be smooth and free from friction.
- i) Two lines of steam pipe ERW (MS) 1 ¼ " diameter "C" class shall be provided throughout the length of the machine positioning below and above at back side of the small reels for drying the silk and for draining out the condensed water, ½" steam trap and ½"IBR wheel valve with M.S. fittings shall be provided for this steam pipe line at the end of the machine. All the steam line pipes and connected fittings should resist 35Kg/cm² (500lb/inch²) hydraulic test pressure.

11. VARIABLE SPEED MECHANISM:

- a) Step pulley mechanism to drive the reels at three different reeling speeds viz., 175 rpm, 200 rpm and 225 rpm shall be provided.

12. DISTRIBUTION MECHANISM:

- a) Mounting of silk on reels is 2 ½" wide in convex shape. Speed ratio of reel is 1.5:1.

13. TRAVERSE MECHANISM:

- a) Planetary type gear system comprising C.I body EN-8 axel, ball bearings and EN-8 helical gears, 2.5 modules hobbled of 14/15 or 18/19 teeth shall be provided.
- b) Self-aligning connecting bearing shall be fitted to the traverse.
- c) Channel shall be made of 24 G S.S sheet.
- d) Improved porcelain/ceramic thread guide with SS wire hook shall be fitted with screw fitting.
- e) Nylon rollers embedded with ball bearings, Nylon guides for each frame (on both sides), Connecting flat made of SS 10 gauge shall be provided for horizontal motion of the S.S traverse flat.

14. THREAD GUIDE PULLELY (PLASTIC CROISSURE PULLEYS):

- a) Plastic Croissure pulleys fitted on plated M.S. Metal strip with separate plastic covers on two sides shall be provided.
- b) 4 mm brass stud shall be fixed on both sides of bobbin.
- c) Bobbin and covers shall be made of polystyrene.
- d) Bobbin axel shall be made of silver steel (hardened) material.
- e) For each end, 4 numbers of plastic Croissure pulleys shall be provided.

15. ELECTRICAL CONTROL PANEL:

Suitable starter with relay system shall be provided for one HP motor.

16. PAINT:

- a) The entire machine shall be painted with primary paint. Then the machine shall be neatly spray painted by suitable enamel colours.

- b) Chromium plated and yellow passivated material is used to avoid corrosion wherever necessary.
- c) All bolts, nuts and washers should be electro plated.

The description stated above shall be incorporated on the said machine only. Civil works, steam pipes, water pipes and electrical connections from the main supply up to the machine are not included.

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SPECIFICATIONS OF CSTRI SILK RE-REELING MACHINE(TWO WINDOW)

The main specifications of the silk re-reeling machine shall be as follows:

1. FRAME:

- a) The bottom frame of the re-reeling machine shall be made from 16-gauge 40 mm square M.S. Tubes, Flats etc.
- b) The top frame shall be fabricated by 16 gauge 25 mm square M.S. Tubes, Flats etc.,
- c) Height of reel axel from the floor shall be 980 mm.

2. BODY STRUCTURE:

- a) The reel shall be covered with 20 gauge M.S sheet covering all sides, top and bottom. Inside of the re-reeling machine to be insulated with 1 mm CAF Gasket sheet for insulation (sides and bottom). At the bottom of the frame 24 gauge stainless steel sheet (strengthened with M.S Flat strips on the inside) shall be used to cover the legs of the re-reeling machine completely.
- b) Tilting spherical transparent windows shall be made of 2.5 mm acrylic sheet cover, fabricated on M.S. or FRP moulded flat structure, fitted above each reel with rubber bush stoppers at rear end to avoid loss of temperature.
- c) 40mm x 14 G M.S. Sq. pipe guard shall be provided at the end of the machine for safety purpose.

3. HUMIDITY EXHAUSTERS:

- a) The humidity vent shall be provided to each window of re-reeling machine.

4. MOUNTING OF THE MACHINES:

- a. The entire silk re-reeling machine shall be mounted on 75mm X 40mm X 6mm, M.S. Channels.
- b. Base for small reels keeping shall be made with cement platform in such a way that small reels can be placed at an inclination to the central axis of balloon control rings so that silk can be unwound smoothly.

5. MOTOR AND DRIVE ARRANGEMENT:

- a. The Drive arrangement structure shall be fabricated by 50 X 50, 6mm M.S. Angle and suitably covered by 20 gauge M.S. Sheet.
- b. 1 H.P 960 RPM, 380 / 440 volts, 3 phase, 50 cycles induction Motor preferably from ISO 9000 certified companies shall be provided with the machine.
- c. The motor shall be provided with DOL (Direct on line) starter.

6. TRANSMISSION:

- a) Fitted with V belt, 5/8" pitch chain, M.S. Sprocket, with 3 module 50 Teeth (156 mm diameter) M.S. Gears, EN-8 Metal shaft fitted with 25 mm pillow block bearing.
- b) All moving parts in the machine such as gears, 'V' pulleys are tightened by high tensile fasteners.

7. MAIN SHAFT:

The main shaft shall be of 25 mm diameter M.S. bright rod with self aligned pillow block bearings. The drive is transferred through 480mm diameter, 25 mm width, and cast iron drum wheel.

8. REELS:

- a) The reels shall be of 1.5 meter in circumference, which shall be fixed on 6 way LM6 Aluminium material hubs having 12mm 4 fixed spokes and 2 collapsible spokes with brass wing nuts. The re-reeling aluminium hubs shall be fixed on central shaft groove using bolt arrangement. The collapsible spokes shall be 12 mm diameter. The brass wing nut shall have 25 mm thread length. The reel shall weigh a minimum 11 Kg.
- b) The wooden battens shall be made of good quality seasoned teak wood smoothly polished of size 50 X 25 X 600 mm with single groove in the middle of the batten of size 4 mm square.
- c) The reel shaft shall be made of M.S. 20 mm diameter fitted with both sides sealed ball bearings of 15 mm inner diameter on both sides of the shaft. The bearings shall be fitted on open type cast iron housings on left side and self aligned U block on the right side.
- d) Friction wheel shall be of 150 mm diameter and 25 mm width made of compressed hard wood/Nylon / rubber band with C.I. Flange with hub fastened with M6 bolts and nuts.

9. TRAVERSE:

- a. The Traverse bevel gear shall be made of nylon – 6 material having 16 T X 25 T of 3 modules.
- b. The thread distribution shall be connected with 100 mm disk to achieve eccentric drive and provided with curved shape traverse connecting rod using 6mm M.S. round/flat rod at edges bushed. The traverse pipe shall be welded and drives to avoid wobbling. The traverse pipe shall be of size 12/20 mm 24 gauge square stainless steel tube mounted on 2 sets of nylon square bushes /nylon rollers and having 5 ends / window. The distance between guide to guide is 115 ± 2 mm. The weight of the distribution pipe with thread guides shall be 400 g.
- c. Pigtail type thread guides of enamel coated - single spiral having smooth finish shall be fixed in the vertical position and the thread shall pass on stainless steel tension tube of 24-gauge 15 mm diameter. Use of 3 mm diameter stainless steel wire for double spiral thread guide is preferred.
- d. Balloon control rings shall be fixed on flat frame or side sheet and shall be made from 5 mm thickness stainless steel wire having 35 mm inner diameter and length of 5.25" (3 numbers) & 4.25" (2 numbers).
- e. 16 mm X 24 G, stainless steel pipe used for yarn path.

10. REEL SPEED VARYING DEVICE:

The machine shall be provided with step pulley arrangement to enable to run the machine at three different speeds viz., 150 rpm, 180 rpm and 210 rpm.

11. REEL BRAKE:

The brake wheel shall be fixed on reel shaft. The U shape brake shoe fitted on long lever and loaded with effective springs at the rear end to achieve the following objectives:

- i. The reel shall come to a halt with minimum rotations and should not rotate backwards.
- ii. The engaging and disengaging drive shall be very effective.

12. STEAM PIPES FOR CIRCULATION OF HOT AIR:

- a) 5 rows of steam pipe lines to be drawn shall be of 40 mm dia 'B' class MS pipe, one between the 2 reels, one each at the top & bottom and each side of the reels. Out of the five rows, two rows of the steam pipes shall be of fin tube type of 20mm diameter B Class, which will be placed at the bottom of the reels.
- b) The main steam header pipe shall be of 90mm diameter and the condensed water drain of 50 mm diameter with float type steam trap shall be provided for smooth and equal distribution of steam in all five steam pipes. 50 mm MS flange shall be provided for maintaining steam trap along with blow off cock.
- c) Steam pressure gauge of 4 inches diameter, capacity 0 ~ 7 kg per cm² with siphon pipe shall be fitted on the steam header.
- d) All the steam pipes and connected fittings shall be of MS to resist 35 kg/cm² (500 lb/inch²) hydraulic test pressure.

13. ELECTRICAL CONTROL:

Suitable starter with relay system for one HP motor shall be provided.

14. PAINT:

- a) The entire machine shall be painted with primary paint. Then the machine shall be neatly spray painted by suitable enamel paint.
- b) Primary black dull paint shall be neatly sprayed inside the re-reeling machine.
- c) Yellow passivity material is used to avoid corrosion.
- d) All bolts, nuts and washers are electro plated.
- e) Steam pipes shall be painted with heat resistant aluminium paints.

BID SECURING DECLARATION FORM

Tender No. CSB/CSTRI/12(14)/2006-STORES

Date:

To
The Director,
CSTRI,
BANGALORE

I/We, The undersigned, declare that :

I/We understand that, according to your conditions, bids must be supported by a Bid Securing Declaration.

I/We accept that I/We may be disqualified from bidding for any contract with you for a period of one year from the date of notification if I am/We are in a breach of any obligation under the bid conditions, because I / We

- a) have withdrawn / modified/amended, impairs or derogates from the tender, my / our Bid during the period of bid validity specified in the form of Bid ; or
- b) having been notified of the acceptance of our Bid by the purchaser during the period of bid validity (i) fail or reuse to execute the contract, if required, or (ii)fail or reuse to furnish the Performance Security, in accordance with the Instructions to Bidders.

I/We understand this Bid securing Declaration shall cease to be valid if I am / We are not the successful Bidder, upon the earlier of (i) the receipt of your notification of the name of the successful Bidder; or (ii)thirty days after the expiration of the validity of my / our Bid.

Signed:

(Insert Signature of person whose name and capacity are shown)

In the capacity of

(Insert legal capacity of person signing the Bid Securing Declaration)

Name:

(Insert complete name of person signing the Bid Securing Declaration)

Duly authorized to sign the bid for an on behalf of (Insert complete name of Bidder)

Dated on _____ day of _____ (insert date of signing)

Corporate Seal (where appropriate)

(Note: In case of Joint Venture, the Bid Securing Declaration must be in the name of all partners to the Joint Venture that submits the bid)