



# केन्द्रीय रेशम उत्पादन अनुसंधान एवं प्रशिक्षण संस्थान

केन्द्रीय रेशम बोर्ड वस्त्र मंत्रालय, भारत सरकार  
बहरमपुर - 742101, मुर्शिदाबाद जिला, (पश्चिम बंगाल)

**Central Sericultural Research & Training Institute**

[ ISO 9001 : 2015 Certified ]

**CENTRAL SILK BOARD** Ministry of Textiles, Govt. of India  
Berhampore – 742101, Murshidabad Dist., West Bengal, India



No: CSB/CSR&TI/ S&P/ Pur-18 / 19-20/23/

Date: 07.01.2020

To

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## **NOTICE INVITING TENDER**

Sir,

### **Sub: Inviting Quotation for procurement of 2 Basin Multiend Reeling Machine for CSR&TI, Berhampore, West Bengal- Reg.**

This institute invites sealed tender in two bid system (Technical & Financial bid in two separate envelopes) from manufacturer / authorized dealers in India and abroad for Supply, Installation, Commissioning & Training on Operation(s) & Maintenance of **2 Basin Multiend Reeling Machine**.

#### **The details are summarized below:-**

a)	Tender number	Reference number for inviting bids through this tender is <b>CSB/CSR&amp;TI/S&amp;P/Pur-18/2019-20/23</b>
b)	Eligible bidder	Original Equipment Manufacturers /Authorized Distributors of OEM/ Authorized Dealers of original equipment manufacturer (as per the eligibility details placed in the tender at “ <b>Instructions to the Tenderers</b> ”.
c)	Purchaser	Central Sericultural Research & Training Institute (C.S.R.& T.I.), Berhampore ,Dist. Murshidabad, West Bengal,
d)	Scope of Tender	Supply , Installation, Commissioning & Training to staff members/ scientists, Comprehensive warranty of 2 years + Maintenance contract of 3 years after expiry of warranty.
e)	Specifications / Details of Machine	The detailed components/specifications of machine are specified in tender and placed at <b>Annexure-A</b>
f)	Web page for details of tender	Tender Document can be downloaded from the websites <a href="http://www.csrtiber.res.in">www.csrtiber.res.in</a> / <a href="http://www.csb.gov.in">www.csb.gov.in</a> and e procurement portal: <a href="http://eprocure.gov.in">eprocure.gov.in</a>
g)	Location of supplies	Central Sericultural Research & Training Institute, Berhampore, Dist. Murshidabad, West Bengal,

Contd.



Tel.: (03482) 224713 / 224719 (PMCE) / 224689 (Trg) :: EPABX: 224716 / 17 / 18 :: FAX: +91 3482 224714 / 224890

E-mail: [csrtiber.csb@nic.in](mailto:csrtiber.csb@nic.in) / [csrtiber@gmail.com](mailto:csrtiber@gmail.com) :: Website: [www.csrtiber.res.in](http://www.csrtiber.res.in)



h)	Earnest Money Deposit(EMD)	Interest free EMD at the rate of <b>2%</b> of the total bid value must be submitted by the bidder along with the tender in the form of Demand Draft drawn in favour of <b>Director, CSR&amp;TI</b> payable at Berhampore ,West Bengal
i)	Exemption from the payment of EMD submission	The exemption for the payment of EMD will be applicable under rule 170 & 173 of General Financial Rules (GFR), 2017 for Micro & Small Enterprises (MSEs) as per the “Public Procurement Policy for Micro & Small Enterprises Order 2012”. To claim the exemption, self-certified copy of valid certificate / proof of registration for the goods for which this tender floated, must be enclosed with Technical Bid.
k)	Security Deposit	The successful bidder has to submit interest free security deposit amount to the value equal to 10% of the total value of order within ten days from the date of issue of Purchase Order by purchaser.
l)	Last Date of submission of Tender	<b>Tender must be delivered to the address below on or before 04.03.2020 by 14:00 hours.</b> The bids received after due date and time shall be rejected. The Director CSR&TI, Central Silk Board, PO. Berhampore, Dist. Murshidabad PIN 742101, West Bengal
m)	Date of opening of Technical Bid (Envelope-1)	<b>The technical bid for the tender shall be opened on 04.03.2020 at 15:00 hours at the address as above.</b> However, in the event of date being declared as holiday, the date for submission and opening of bids shall be the following working day of the appointed a date and time.
n)	Date of opening of financial bid(Envelope-2)	The date of opening second envelope containing commercial bid will be intimated to the technically qualified bidders separately.
o)	Undertaking by the Bidder	An undertaking should be submitted by the bidder as per <b>Annexure-B.</b>

Note: In case any further details required, the same can be collected from the office of this institute from the date of publish of this tender.

Sd/-  
Director  
CSR&TI, Berhampore, West Bengal

Copy to: 1. The Deputy Director (Comp), CSR&TI, Berhampore for uploading the tender document in this Institute's website and make arrangement for uploading the same in Board's website.

2. The Asstt. Director (OL), CSR&TI, Berhampore for translation.

Director

**INSTRUCTIONS TO THE BIDDERS**

*The Tender shall be submitted in accordance with these instructions, as under,*

**1. Abbreviations:**

Throughout this tender document, the word/ term:

- a) “CSR&TI” means Central Sericultural Research & Training Institute
- b) “day” means calendar day.
- c) “Working day” means Monday to Saturday in week.
- d) “Tender “means CSB/CSR&TI/ S&P/ Pur- / 2019-20/23
- e) “Machine” means the machines/ equipment/ accessories as detailed in Annexure-A
- f) “Bid” means the document and financial details submitted by bidder.
- g) “Bidder” means the eligible and qualified bidder.
- h) ‘Tenderer” means the eligible and qualified Original Equipment Manufacturers/ Authorized Distributors/ Authorized Dealer.
- i) “OEM” means Original Equipment Manufacturer.

**2. Eligible Bidder:**

- a) The intending Bidder, in case of Original Equipment manufacturers shall submit a self- declaration on their letter-head , along with the Technical Bid , confirming that they are regular in manufacturing & supplying the similar machines, as asked in the tender for the last 5 years.
- b) The original equipment manufacturers shall possess ISO certificate for their establishment. The copy of the valid ISO certificate shall be placed with the Technical bid.
- c) The intending bidder, in case of authorized distributors of OEM/ authorized dealer of OEM shall possess valid authorized distributorship/ dealership license from the OEM and to be engaged in regular supply of similar machines for the last 5 years. The bidders shall enclose the copies to substantiate their engagement in supplies for the goods for which the above said tender is being issued, for the last 5 years and associated with the OEM for the last 3 years. The copy of the same is to be enclosed in Technical bid while submitting the tender.

**3. Delivery:**

- a) The purchaser expects the completion of delivery of machine by the bidder within 60 calendar days from the date of issue of supply order at the location. However, the bidders have an option to submit the best delivery time while submitting the Technical bid, but in any case, the delivery should be completed before 90 days from the date of issue of supply order by purchaser.
- b) The machine/ equipment shall be inspected by the purchaser on receipt at site and bidder shall be responsible for any damage during the transit of machine / equipment.

The purchaser shall not be responsible for any damage due to any reason during the transportation of machines/ equipment to the designated site of the purchaser.

- c) The successful bidder shall not be allowed for part shipment/transshipment without the permission of the purchaser. The insurance cover including insuring the goods against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery/ installation/ commissioning shall be obtained by the bidder in his own name and not in the name of purchaser.

**4. Comprehensive Warranty:**

- a) The successful bidder shall offer on –site comprehensive warranty of machine valid for a minimum period of one year from the date of successful commissioning of machine at the designated location & shall cover each and every part of the machine including parts having limited life etc. The purchaser is not liable to pay any extra charges on any account during warranty period.
- b) Any part or parts fail or proved defective within the on-site warranty period specified above, owing to defect in design, material or workmanship, the bidder shall have to replace them with original spares only without asking for any charges.
- c) The successful bidder shall have to visit the location at which the machine supplied once in a quarter as a “**preventive maintenance service**” to check the working of the machine, associated systems, efficiency of operational areas etc. during the warranty period.
- d) During the warranty period, expert(s) shall be deputed at site by the successful bidder within two working days from the date of request from purchaser, to rectify and fixing the defects/ malfunctioning of machine at the location where machine supplied within next three working days. The cost of deputation of expert(s) and any other associated expenditure to attend the rectification / fixing of fault shall be borne by the bidder.
- e) In case the successful bidder is not able to rectify the fault within the period of three days, the purchaser has authority to demand for demurrages because of loss to purchaser due to “under repair” situation for the machine.

**5. Manuals:**

The bidder to supply 03 sets of the following manuals in hard format and one soft format along with the machine.

**6. Authorization for submission of Tender :**

- a) The original and all copies shall be signed and stamped, on every page, by a person duly authorized to sign on behalf of the bidder. The written confirmation of authorization to sign on behalf of the bidder should be attached with the technical bid.
- b) The purchaser may without prejudice to any, consider cancel the tender in the event of the person signing with no authority.

**7. Return of EMD of Unsuccessful bidder:**

The EMD will be returned to the unsuccessful bidder soon after the order is placed on the successful bidder. In case of successful bidder, EMD will be released after deposit of performance security.

**8. Return of SMD of Successful bidder:**

The security deposit will be returned after the expiry of warranty period.

**9. Submission of Tender:**

a) The bidder to examine all instructions, terms and specifications in the tender documents and furnish with its bid all documents or information as required by bidding document.

b) The tender must be placed in a properly sealed bigger envelope containing both ( sealed Technical and Financial bid). The bigger envelope must be superscribed “ Tender for Supply, Installation and Commissioning of Two Basin Multiend Reeling Machine”. The two sealed envelopes inside the bigger envelope must be superscribed as:

**Envelope No. -1:** The said envelope is for Technical Bid and be superscribed as “Tender for the supply, Installation, Commissioning of Two Basin Multiend Reeling Machine”-Technical Bid.

**Envelope No. -2:** The said envelope is for Commercial Bid and be superscribed as “Tender for the supply, Installation, Commissioning of Two Basin Multiend Reeling Machine”- Commercial Bid.

**10. Financial Bid Submission:**

a) Bidder shall take into account of all costs including packing, freight, transportation, insurance cost including unloading of machine at the location of the purchaser for giving delivery of material before quoting the “Price of Machines before GST” in the commercial bid.

b) The “Price of Machines before GST” shall remain firm & inclusive of all costs involved and the cost of installation & commissioning.

**11. Rights of Purchaser:**

The purchaser reserves the right to accept or reject any bid and to annul the bidding process and reject all bids at any time prior to supply order, without thereby incurring any liability to bidders. In case of annulment, all bids submitted and specifically bid document, EMD deposits shall be promptly returned to the bidders.

**12. Validity of Tender:**

a) The tender shall be valid for a period of 90 days from the date of opening of the Technical bid of tender. Terms and financial details submitted in the bid shall be treated as firm during the said period of 90 days.

b) In exceptional circumstances, prior to the expiry of the bid validity period, the purchaser may request bidders to extend the period of validity of their bids. The request and the responses shall be made in writing.

**14. Evaluation of Bids:**

a) If there is discrepancy between words and figures, the amount in words will prevail, unless the amount expressed in words is related to an arithmetic error.

b) If there is an error in a total corresponding to the addition or subtraction of sub-totals, the sub-totals shall prevail and the total shall be corrected.

- c) The bidder shall note that they are not supposed to put any GST amount in the commercial bid. However, after the supplies, they have to issue GST invoice indicating the price of the machine as quoted in the commercial offer and thereafter specify the GST as applicable at the time of delivery. The purchaser shall pay total amount which includes the unit price of machine as well as the GST as applicable at the time of delivery.

**15. Earnest Money Forfeiture:**

- a) If any bidder withdraws his tender before the period of 90 days from the date of opening of technical bid or makes any modifications in the terms and the conditions of the tender which are not acceptable to the purchaser, then the purchaser shall without prejudice to other rights or remedy, be at liberty to forfeit the EMD.
- b) The EMD will also be forfeited in following cases:
  - i) If the bidder fails to accept the supply order issued, based on his/her offer his /her offer within the prescribed time.
  - ii) If the bidder fails to supply the machines with specifications as mentioned in the tender.
  - iii) If the bidder delays supplies beyond the reasonable time.
  - iv) The successful bidder does not submit Indemnity Bond within the prescribed time.

**16. Security Deposit Forfeit:**

The security deposit will also be forfeited in following cases;

- i) If the bidder fails to accept the supply order issued, based on his/her offer within the prescribed time.
- ii) If the bidder fails to supply the machines with specifications as mentioned in the tender.
- iii) If the bidder delays supplies beyond the reasonable time.
- iv) Submission of misleading/contradictory/ false statement or information and fabricated/ invalid documents is detected before or after the issue of order to execute the supplies.

**17. Force Majeure:**

In the event of any unforeseen circumstances directly interfering with the supply of goods/work/service arising during the execution of order such as war, hostilities, acts of the public enemy, civil commotion, sabotage fires, floods, earthquakes, explosions, epidemics quarantine restrictions strikes, lockouts, the bidder shall within a week from the commencement thereof notify the same in writing to the purchaser with reasonable evidence thereof. Either party shall have the option to terminate the contract on expiry of 90 days of commencement of such force majeure by giving 14 days notice to the other party in writing. In case of such termination, no damages shall be claimed by either party against the other.

**18. Jurisdiction:**

In the event of any dispute the legal matter shall be subjected to the jurisdiction of court at Kolkata only.

*We confirm with our acceptance to the instructions above as given above.*

**Bidder's Name & Signature with seal**

*The duly signed pages of "Instructions to Tenderers" as above shall be attached with the technical bid of the tender as a mark of acceptance of bidder and any tender not confirming the instructions as above, is liable to be rejected.*

## ANNEXURE-A

### COMPONENTS OF 2 BASIN MULTIEND REELING MACHINE

Sl. No.	Name of the machine/ equipment	Quantity
I.	Two Basin Cap. Multiend Reeling Machine [10 ends/basin]	1
2.	CSTRI Two Pan equipment for Brushing	1
3.	CSTRI Circular Pressurised Cooking Machine	1
4.	CSTRI Reel Permeation Chamber	1

#### I. Specification for Two Basin Cap. Multiend Reeling Machine

##### 1. FRAME:

- 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.
- Each of the frames to its length is tied up with 16 mm MS rod, 3 numbers, (Two bottom and one top).

##### 2. MOTOR AND DRIVE ARRANGEMENT:

- 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.
- The drive arrangement shall be covered by 20gauge M.S. sheet with locking system.

##### 3. MAIN SHAFT:

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

##### 4. TRANSMISSION MECHANISM:

- 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 centers) 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/cm<sup>2</sup> (500lb/inch<sup>2</sup>) hydraulic test pressure.
- b) Steam pressure gauge 0 – 7 kg/cm<sup>2</sup> 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/cm<sup>2</sup> (500lb/inch<sup>2</sup>) hydraulic test pressure.
- d) For draining out the condensed water, ½" IBR wheel value with M.S fittings provided at the end of the machine. All the steam pipe lines and connected fittings should resist 35 Kg/cm<sup>2</sup> (500lb/inch<sup>2</sup>) 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 (50 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' center 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/cm<sup>2</sup> (500lb/inch<sup>2</sup>) 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 colors.

- 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.

**SPARES FOR MULTIEND SILK REELING**  
**MACHINE 2 BASINS CAPACITY**

S1 no.	Items	Quantity in Nos.
1.	Nylon Button clip set	20
2.	Ceramic/ porcelain Button	50
3.	Plastic Croissure pulley	50
4.	Jetteboute set with axel	10
5.	1 3/8" jockey pulley set	5
6.	2 3/4" jockey pulley set	3
7.	5mm dia P.U Jetteboute Belts (meters)	9
8.	Reel Bar Nylon Gear	5
9.	Nylon Reels	10
10.	Porcelain Thread Guide set	10
11.	Reel Break Nylon/ S S arm	3
12.	1" Rubber for Brake	5

***Section 1.02 ONE SET OF TOOLS FOR SILK REELING MACHINERY MAINTENANCE***

- |   |            |
|---|------------|
| 1. One set of set spanner (approximate) --      | 14 Nos.    |
| 2. 12" Screw spanner ----                       | 1 No.      |
| 3. Holland key set (spanner) (approximate) ---- | 1 set      |
| 4. 18" Pipe wrench --                           | 1 No. Each |

5. 8" Cutting pliers	--	1 No.
6. 6" Nose Pliers	--	1 No.
7. Screw Driver one set of 10"-8"-6"	--	1 set of 3 Nos.
8. Hammer 0.5 kg.	--	1 No.
9. Oil can 250ml size	--	1 No.
10. Grease Gun 1/2kg.	--	1 No.
11. Croissure pulley cleaning knife	--	1 No.
12. Jetteboute pulley cleaning knife	--	1 No.

## II. Specification CSTR/ Two Pan equipment for Brushing

### i. Brushing equipment stand:

M.S. 1 1/2" x 1/4" angle fabricated frame, measuring 32" length, 20" width and 30" height (Figure 1 & 2). Stainless steel 20 gauge tray fitted to the above stand.

### ii. Cooking vessels:

Two number stainless steel (outer) vessels 10" diameter x 10" depth shall be fitted to the S.S. tray (Figure 1 & 2). Each cooking vessel shall be provided with 9 1/2" diameter x 8" depth inner perforated vessel (Figure 4).

SS cooking ladle five nos. and Cocoon pressing perforated plate / disc (as per the Figure 4) five nos. shall be provided.

### III. Steam and Water pipes:

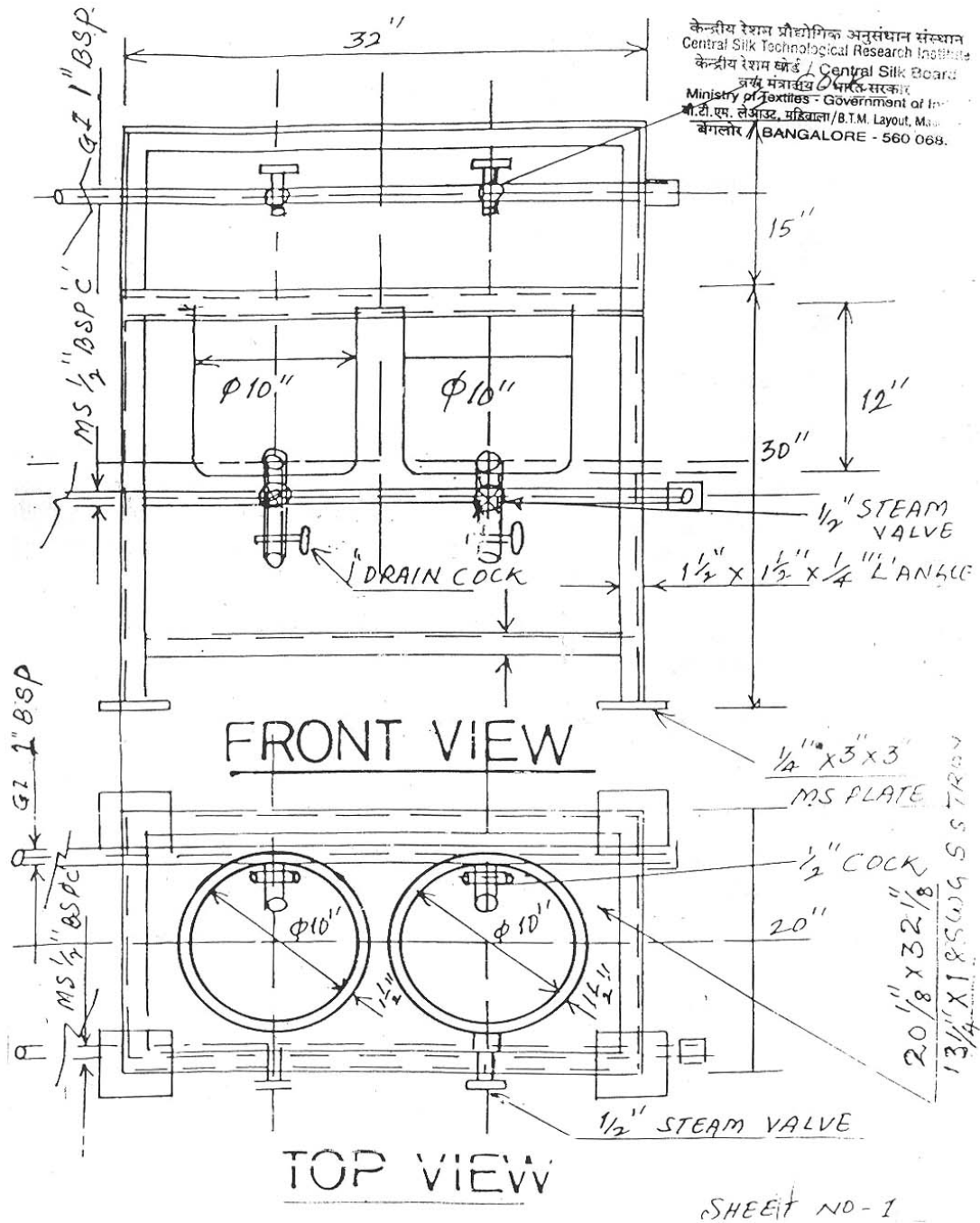
- Each cooking vessel shall be suitably connected with 1/2" "C" class ERW (MS) steam pipe with G.M. ball valves, all working parts shall be made of stainless steel. **All steam pipe lines and connected fittings shall resist 35Kg/cm<sup>2</sup> (500 lb / inch<sup>2</sup>) hydraulic test pressure.** Perforated 1/2" 20 gauge copper tube shall be provided for steam supply to the cooking vessel.
- 1/2" steel tap fitted with 1" GI pipe shall be provided for supply of water to the cooking vessel (as shown in Figure 2 & 3).
- Each cooking vessel shall be provided with 1. G.M. main cock to drain out water

### IV. Paint:

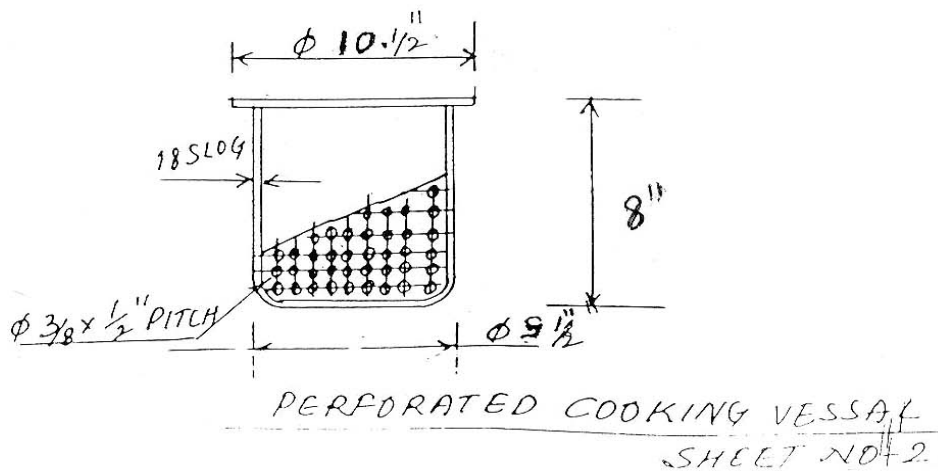
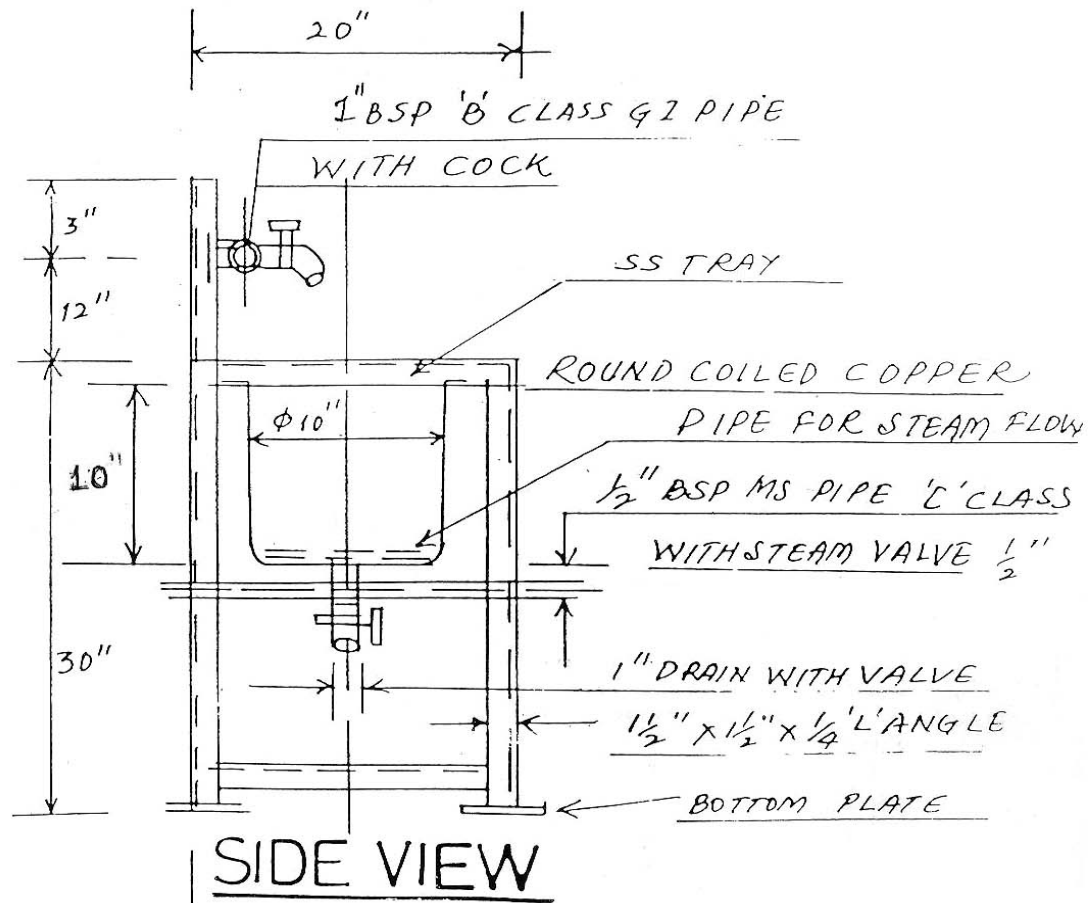
- Enamel paint shall be neatly painted on primary paint.
- All bolts, nuts and washers shall be of MS galvanized / plated.



# TWO PAN COOKING SYSTEM

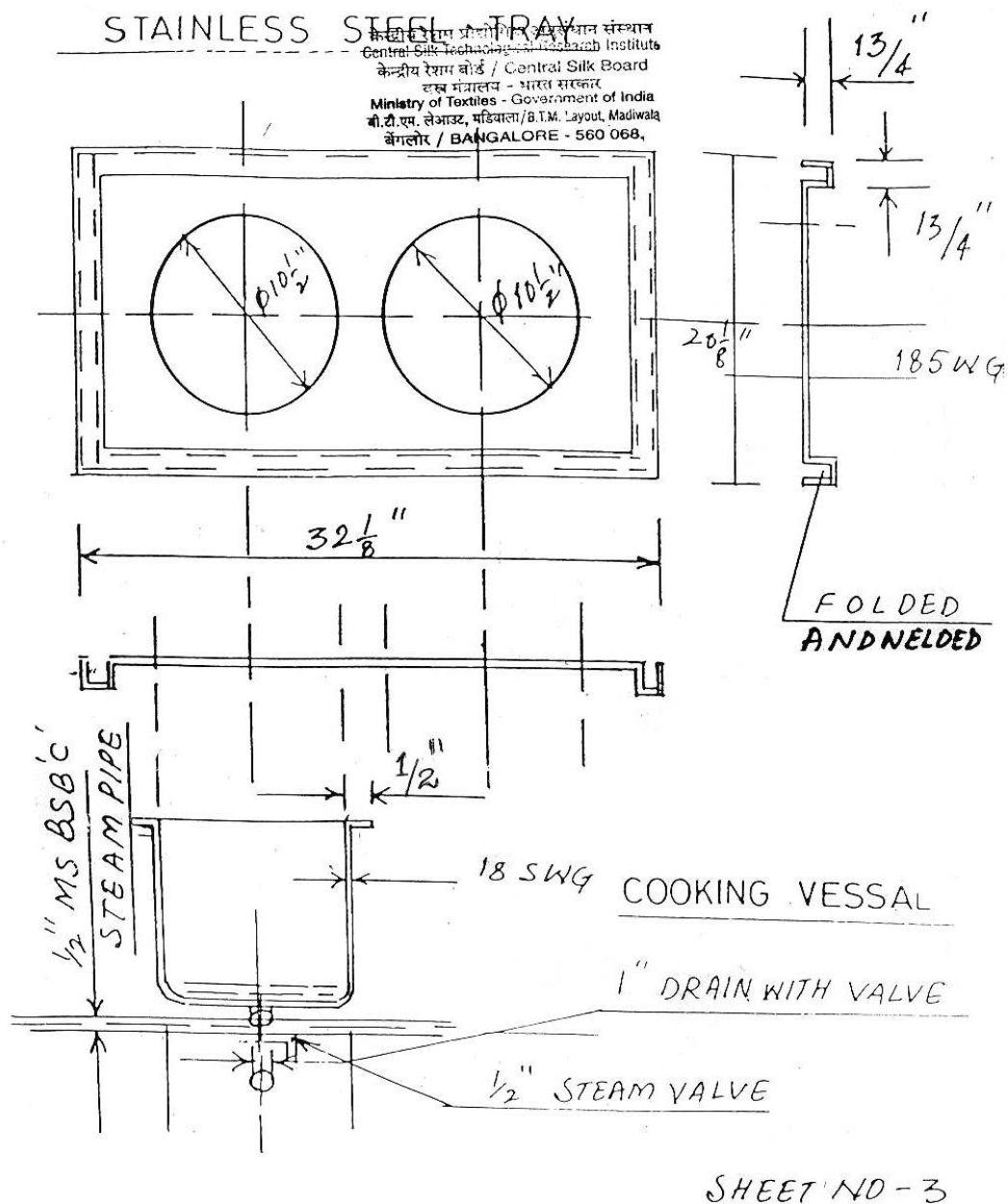


**Fig. 1**



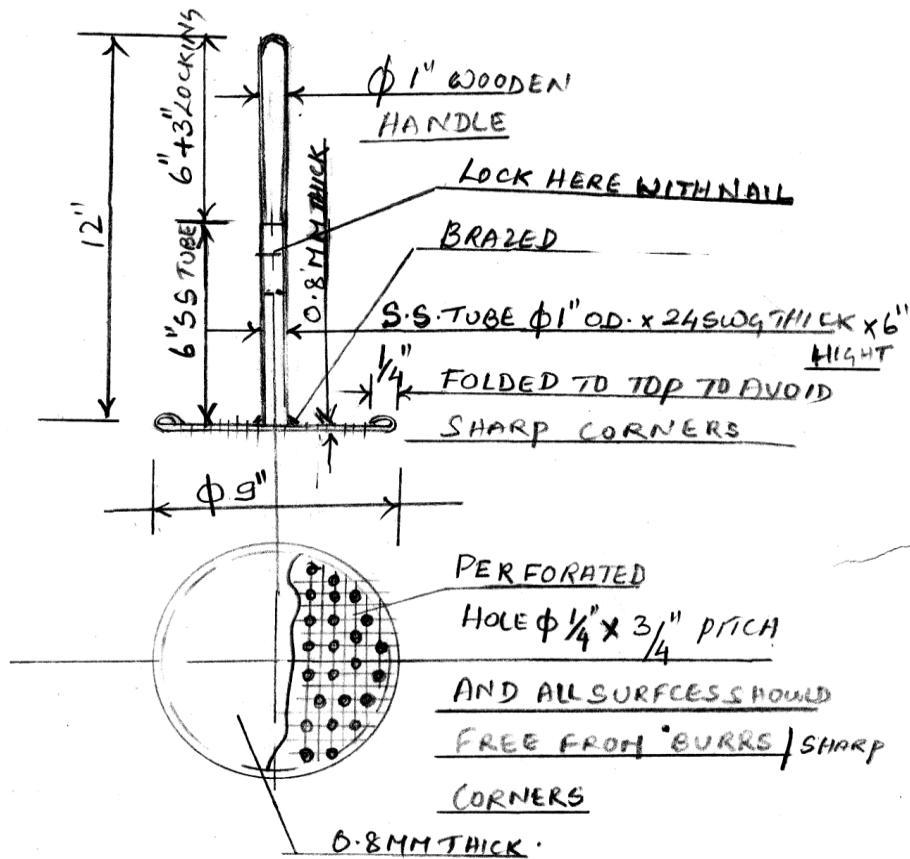
**Fig. 2**





**Fig. 3**

# COCOON PRESSING DISC.



QTY:- 1 NO.

MATERIAL:- SS304.

CSTRI
CENTRAL SILK BOARD
BANGALORE-68
COCOON PRESSING DISC

Fig. 4

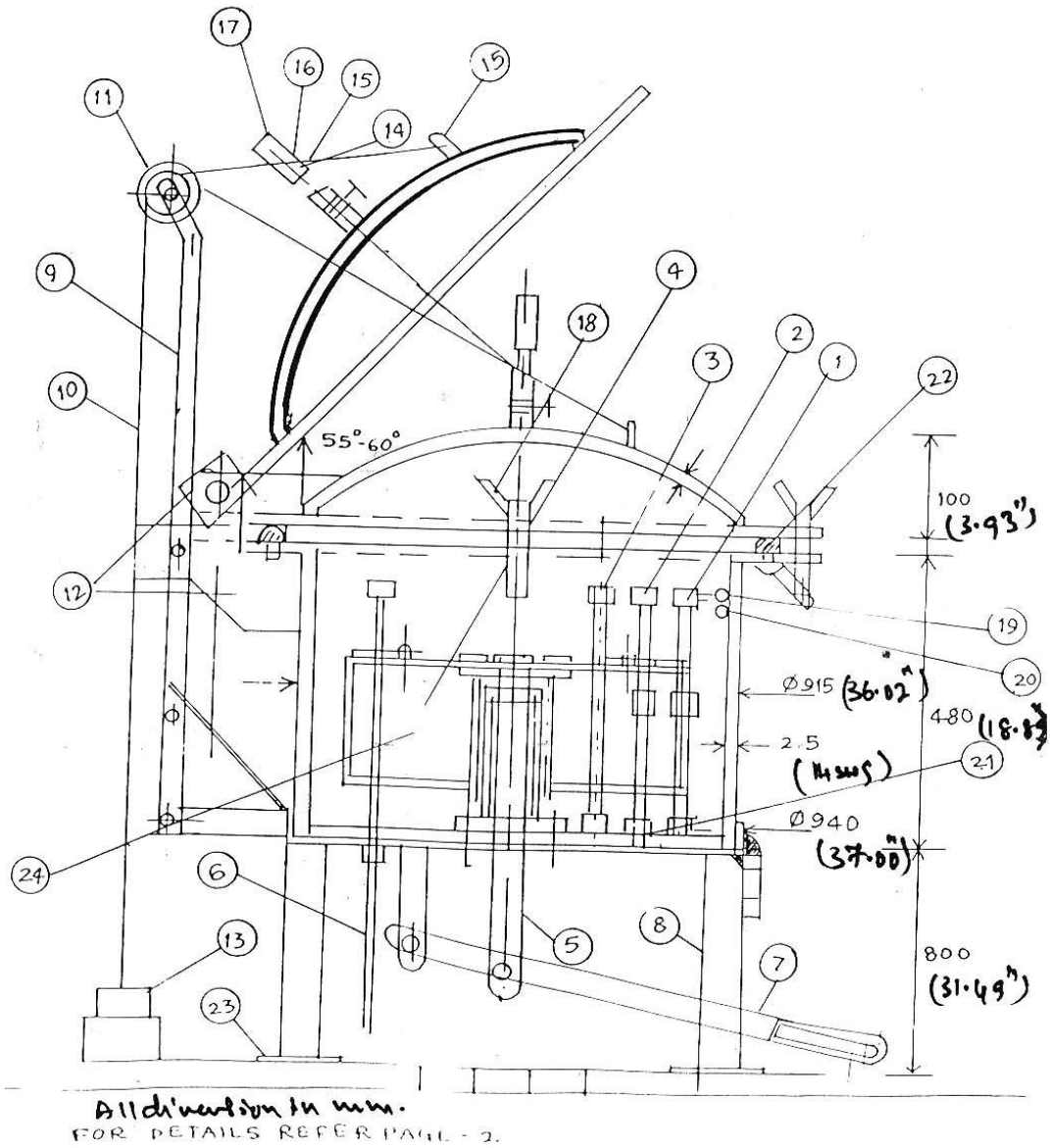
### III. Specification for CSTR Circular Pressurised Cooking Machine

- i. Main cooking chamber shall be made of 2.5 mm thick stainless steel sheet of size 915 mm diameter and 480 mm height with a dome shaped stainless steel cover having depth of 100 mm. Stainless steel flange is provided for the bottom chamber and the top lid for perfect seating (Figure 1 and 2).
- ii. 3 mm thick stainless steel lid shall be provided with a hinge for easy opening and closing of a chamber (top lid) using dead weight and steel rope arrangement through pulley mounted on 1 ½" x 1 ½" x ¼" L angle assembled with top fixed flange of chamber and bottom chamber sheeting angle frame using ½" bolts with gusset. The pulley is made out of cast iron / MS of diameter 2" with suitable groove for wire rope and is mounted using ½" axle support to move freely. The opening of the lid should be limited to 55 ~60° angle with reference to top flange of the cooking chamber and should be locked. The dead weight shall be about 25 Kg and will be operated using wire ropes and clamps (Figure 1 & 2). Or easy opening and closing of lid (top cover) can also be made using suitable dead weight fitted on two levers fixed to the top lid.
- iii. The entire chamber shall be mounted on a 50 mm X 6 mm M.S. angle circular frame supported on a ISMC 75 MS channel (Figure 3).
- iv. Cooking chamber shall be fitted with steam and cold-water connections with inlets at two places. One water inlet at the bottom of chamber for filling the water and other at the topside of the chamber for sprinkling the water. One steam inlet at bottom of chamber for heating the water and other at top for steaming the cocoons.
- v. Perforated stainless steel of 13 mm diameter, 18 gauge tubes for water supply and Stainless steel tubes of size 12 mm diameter, 16 gauge for steam supply shall be provided inside the cooking chamber. The SS tube provided for steam supply at the bottom of cooking chamber shall have 2 spirals / square type for uniform steam supply and shall be of dismantling type for cleaning. Gunmetal gate valve and ball valves with stainless steel working parts fitted shall be of B.I.S. Standard for steam line connections and gate valves of ISI – make for 3 water connections. All the steam lines and connected fittings shall be of MS to resist 35 Kg/ cm<sup>2</sup> (i.e. 500lb/inch<sup>2</sup>) hydraulic test pressure.
- vi. The holes on the steam pipes shall be facing the body of the chamber so that the steam will not hit the cocoons directly; where as holes in the water pipe at the top shall be at an angle of 45°.
- vii. Cooking chamber shall be fitted (outside) with gauge glass for reading water level and one dial thermometer for measuring water temperature. The lid shall be fitted with one pressure gauge, which can read from 0 to 1 kg/ cm<sup>2</sup>, one dial thermometer and 1" steam outlet valve. Suitable safety valve of size 1/2" shall be provided at the top of the dome of the cooking machine.
- viii) 40 mm x 12 mm asbestos gasket or Silicon rubber of 12mm shall be fitted to the bottom chamber on the flange/in the groove in the flange(in the case of silicon rubber) i.e. between the chamber and lid. In the case of asbestos gasket, it shall be fitted on the

flange with counter sunk brass or stainless steel screws of M 6 size. Care shall be taken to avoid leakage of steam.

- ix. Triangular perforated stainless steel cocoon cooking baskets shall be made out of 20-gauge stainless steel sheet in the triangular shape of size 265 mm X 145 mm with smooth finishing. Each basket should hold about 300 cocoons (Figure 4).
- x. 12 numbers of cooking baskets shall be mounted on a stainless steel circular cage fitted with a suitable lifting mechanism. Another set of 12 Nos. cocoon-holding baskets shall be provided along with the machine.
- xi. The central Stainless Steel pipe/shaft of 30 mm diameter and (wall) thickness of 3mm (in the case of pipe) or stainless steel 25mm rod for lifting mechanism for circular cage shall be provided. The pipe/shaft is placed in centre of two colour bushes made to Figures 5 to 8 to avoid water leakage and to reduce friction between moving shafts. The leakage with the bottom colour and the shaft will be avoided by providing rubber hot water resistant seals. The pipe/shaft is lifted up or lowered down with link mechanism and operating arm.
- xii. Cocoon baskets holding cage stand shall have 2 Nos. semicircular covers fitted with 2 Nos. 100 mm stainless steel hinges with perfect locking arrangement (Figures 9 & 10).
- xiii. The positioning of the gauge glass, water inlet, water out let, dial thermometer and lifting mechanism shall be provided at the front side of the cooking machine for easy operation.
- xiv. The bottom and top chamber flanges shall be made out of stainless steel flat of size 50 mm x 12 mm welded to the main cooking chambers and to the top dome (lid) with reinforcement at 6 places and surfaces machined.
- xv. The over flow of the water from the cooking vessel shall be properly adjusted so that when the cages are brought down, the cocoons shall be fully immersed in the water (i.e. water level above the cage shall be 40 mm), whereas, when the cocoon cages are lifted up above the water level, the gap between the water level and bottom surface of the cocoon cages shall be 50 mm above the water level.

FRONT VIEW OF PRESSURED COOKING SYSTEM



**Fig. 1**

## PARTS OF PRESSURISED COOKING SYSTEM

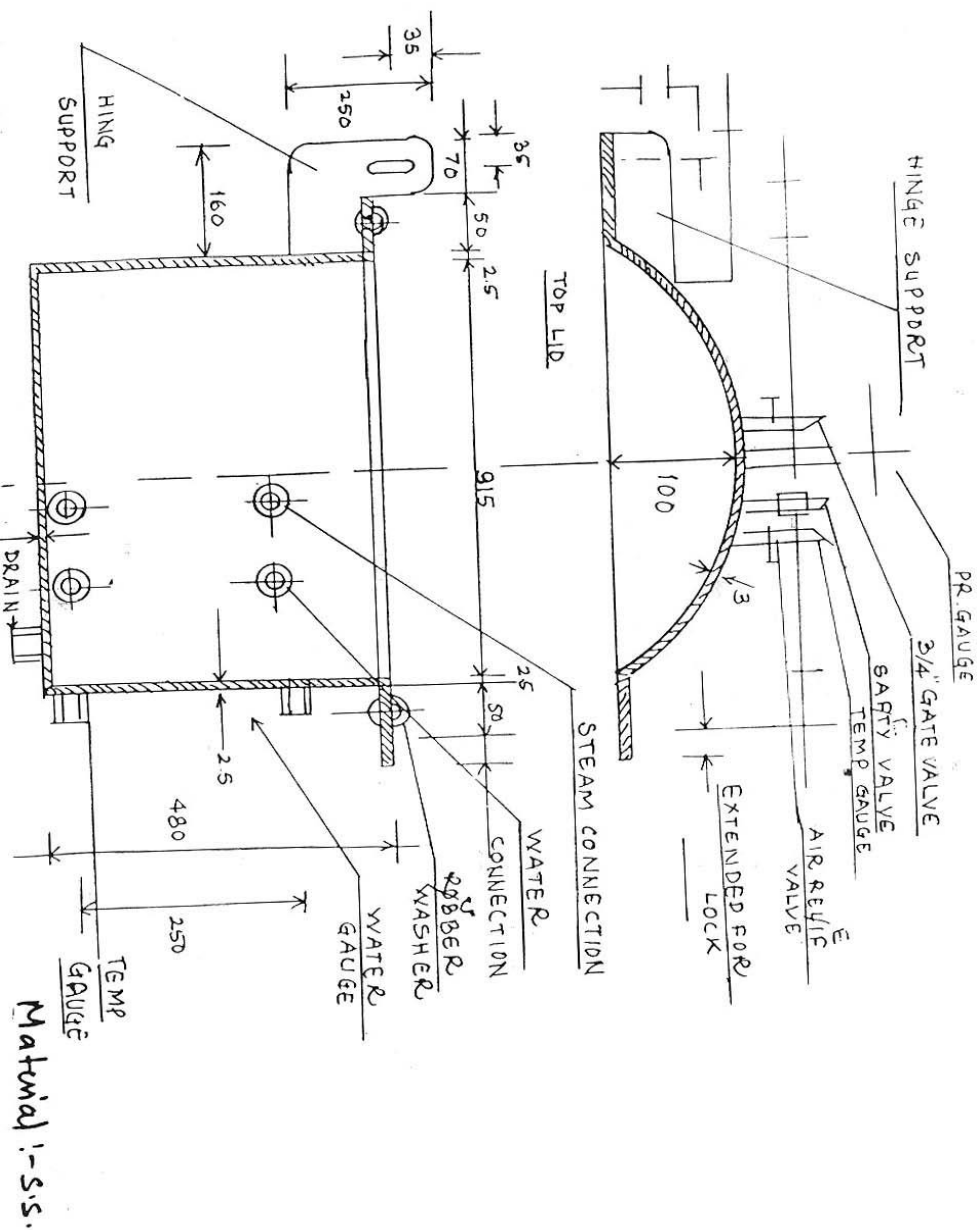
DETAILS OF PARTS	
1	WATER SUPPLY
2	STEAM SUPPLY
3	WATER GAUGE
4	TOP LID
5	OPERATING LEAVER
6	DRAIN
7	OPERATING HANDLE
8	BOTTOM FRAME
9	ANGLE SUPPORT
10	WIRE ROPE
11	PULLEY
12	HINGES
13	DEAD WEIGHT
14	AIR VENT
15	STEAM RELEASE VALVE
16	SAFTY VALVE
17	PRESSURE GAUGE
18	LID LOCK
19	WATER SUPPLY
20	STEAM SUPPLY
21	STEAM SUPPLY BOTTOM
22	RUBBER GASKET
23	BOTTOM PLATE
24	BASKET WITH COCOON CAGE

CSTRI, CENTRAL SILK BOARD  
BTM LAYOUT, MADIWALA  
BANGALORE - 560068

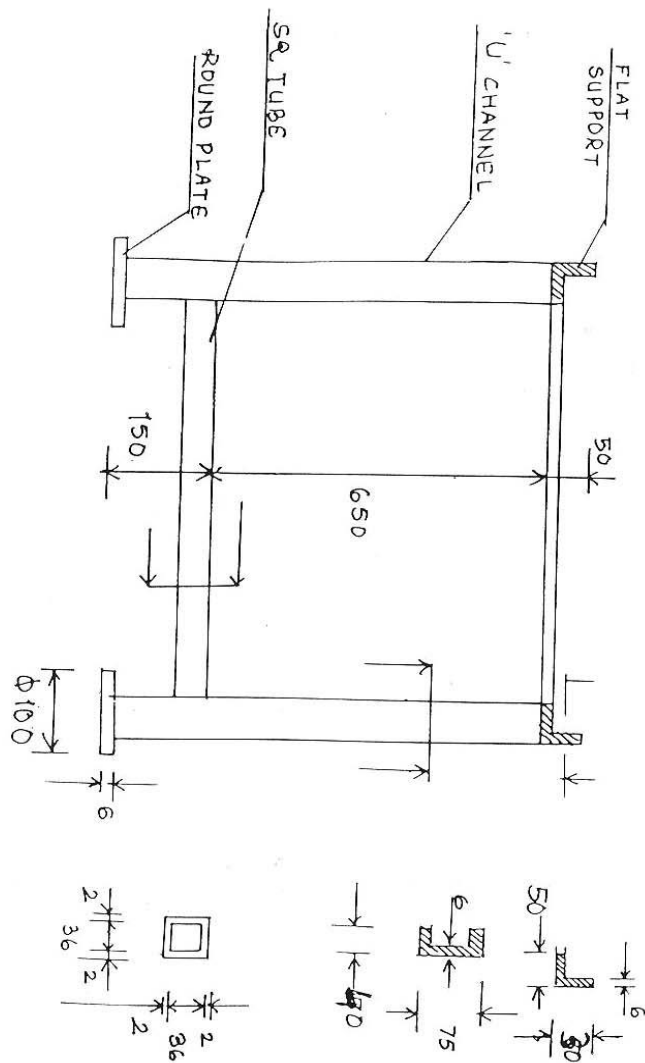
BOTTOM CHAMBER

All dimensions in mm

MATERIAL : S.S.



**Fig. 2**



**Fig. 3**

CSTRI, CENTRAL SILK BOARD  
BTMLAYOUT, MADIWALA  
BANGALORE - 560068

All dimension in mm.

MATERIAL : S.S



CSTR, CENTRAL BULK BOARD  
BTM LAYOUT, MADIWALA  
BANGALORE - 560068

COCOON CAGE

MATERIAL - SS

All dimension in mm

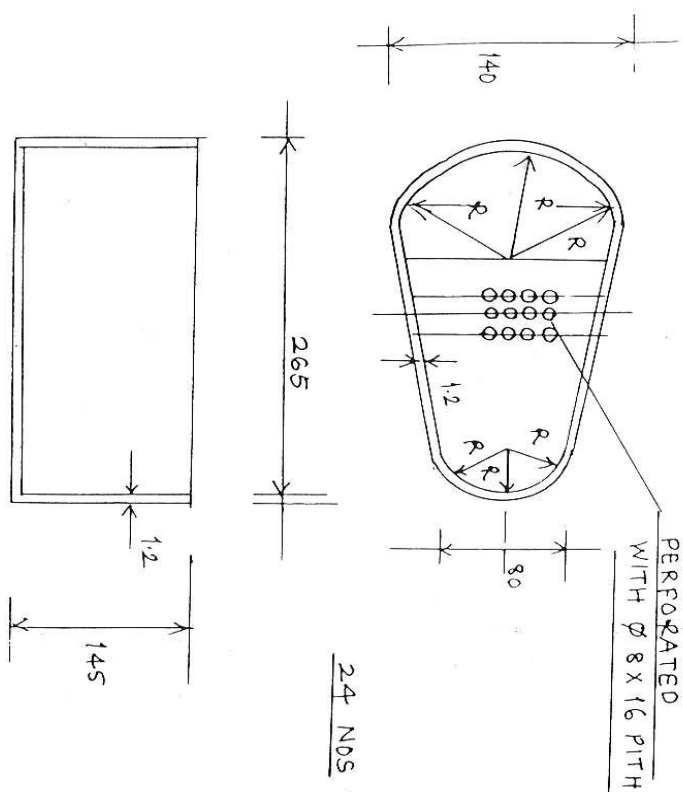
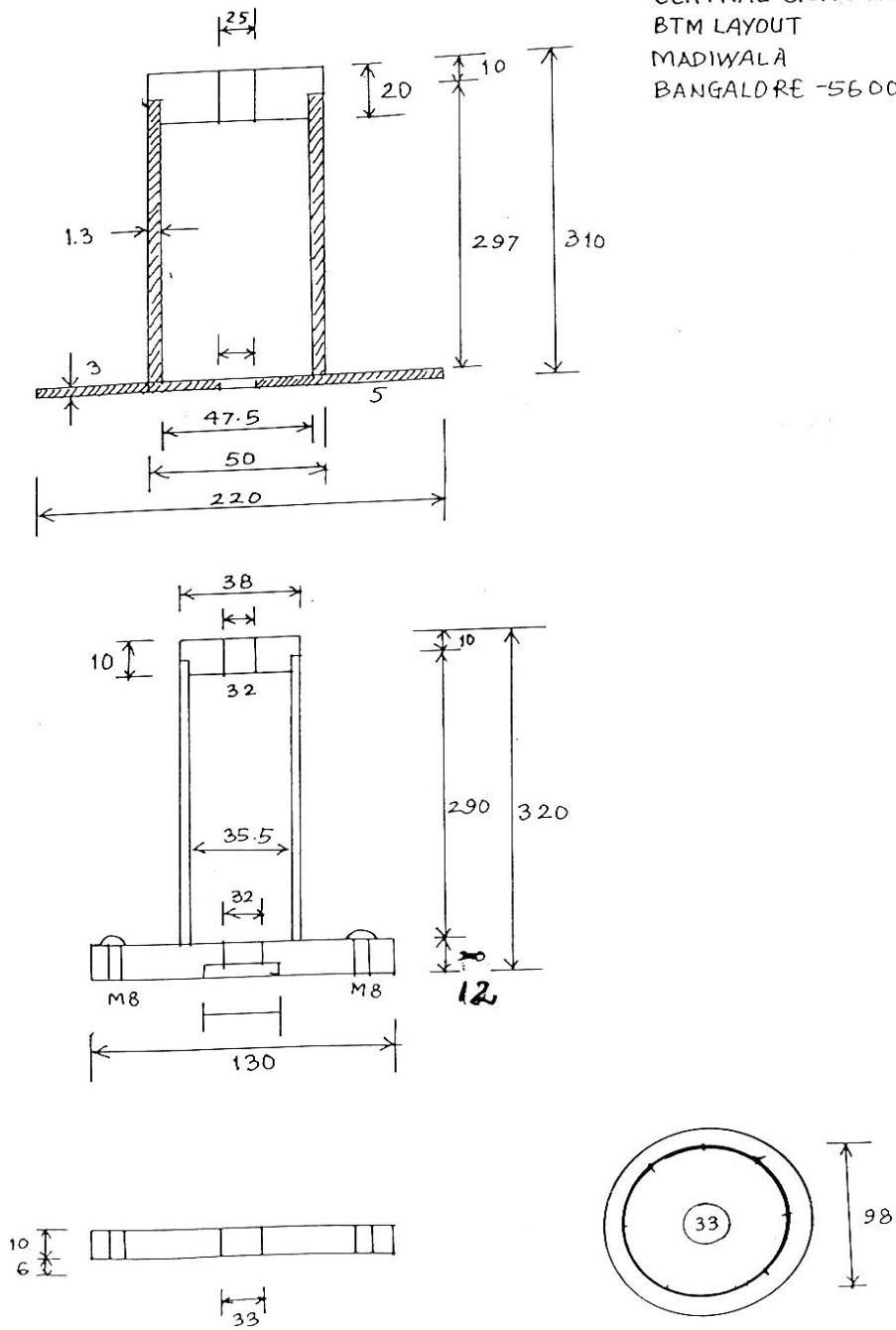


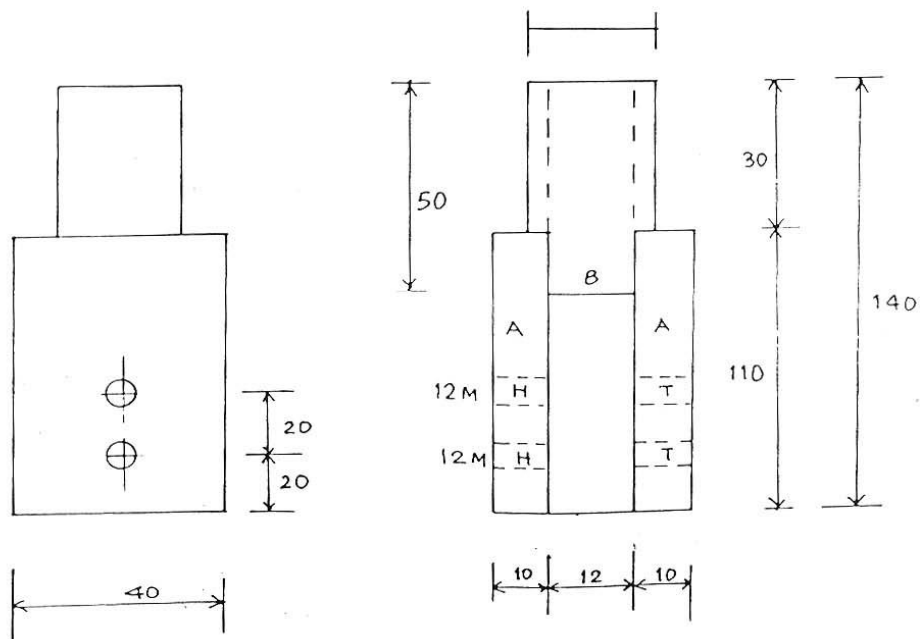
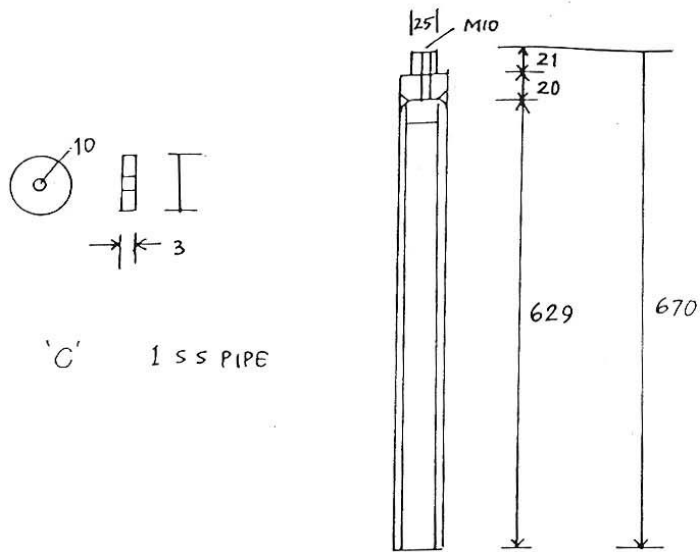
Fig. 4

CSTRI  
CENTRAL SILK BOARD  
BTM LAYOUT  
MADIWALA  
BANGALORE -56006



All dimension in mm.

**Fig. 5**



A - 10 x 40 x 140 -  
10 x 40 x 50 -

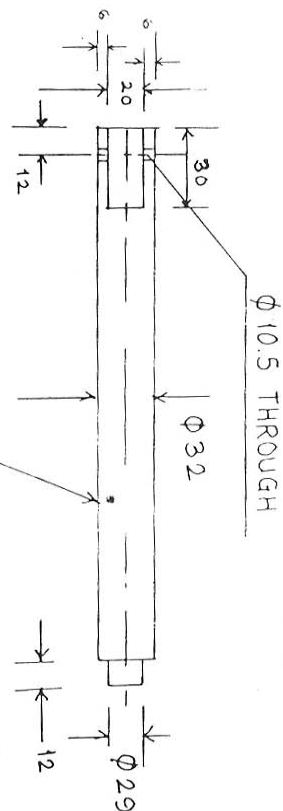
2 No.  
1 No.

Fig. 26

CSTRI  
CENTRAL SILK BOARD  
BANGALORE - 560068

All dimensions in mm.

Fig.6



ALL EDGES CHAMFERED

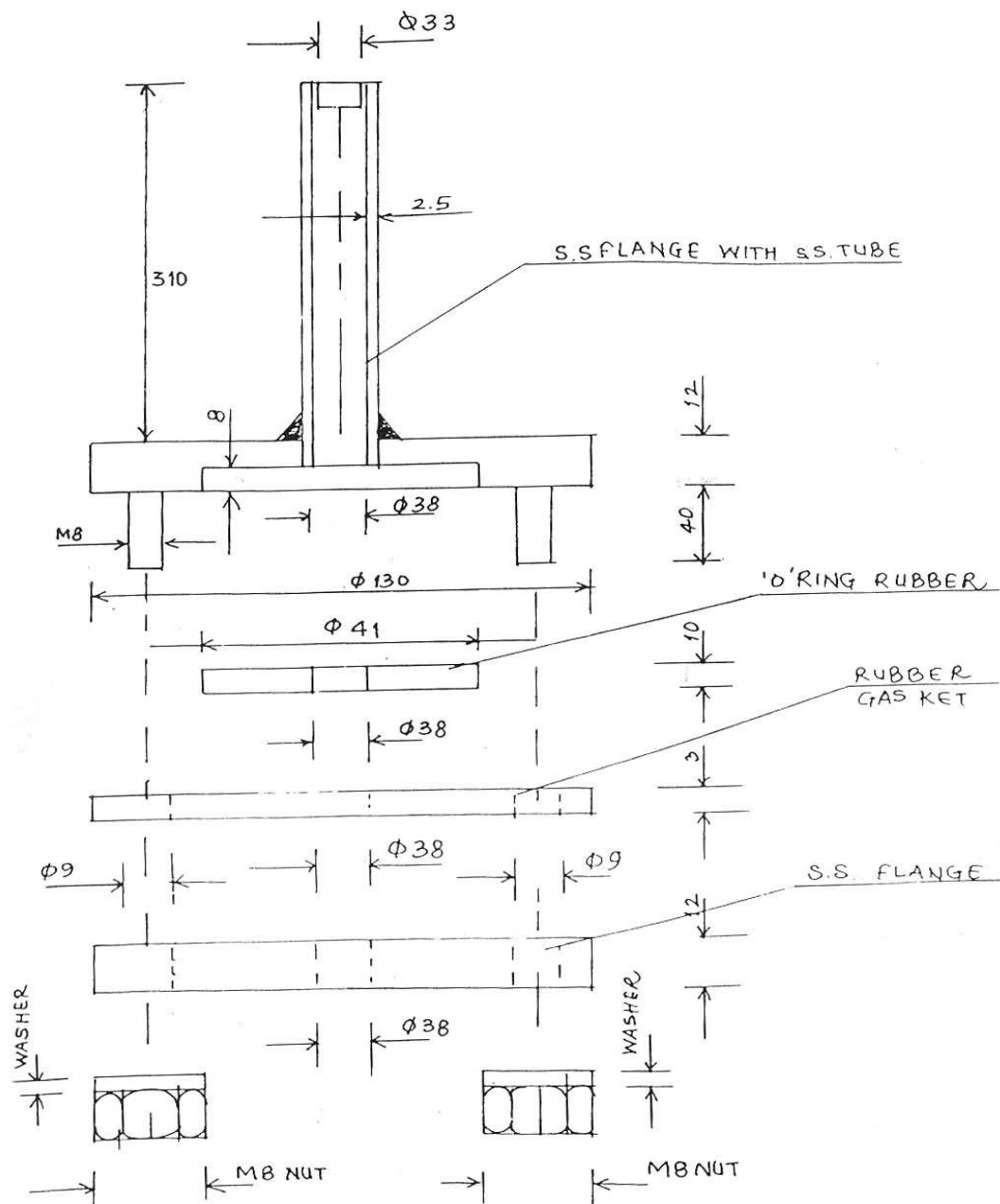
STAINLESS STEEL SOLID/HOLLOW SHAFT

GROUND TO SMOOTH FINISH

**Fig.7**

ESTRI, CENTRAL SILK BOARD  
BTMLAYOUT, MADIVALA  
BANGALORE - 560068

All dimensions in mm.



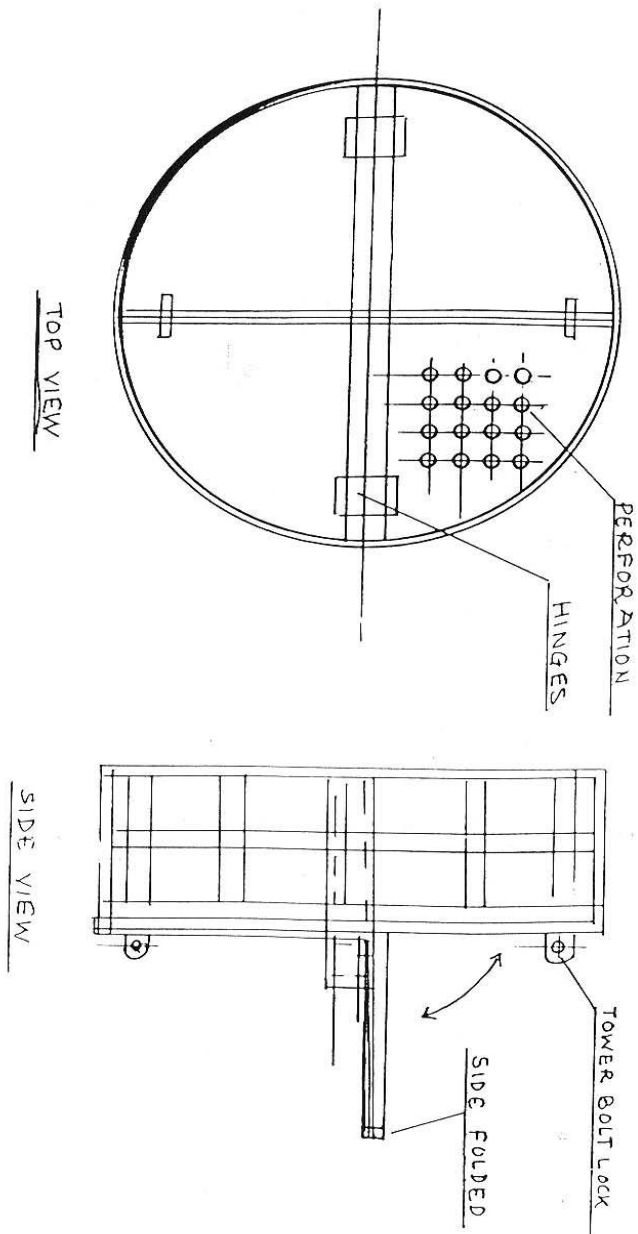
ALL MADE OUT OF STAINLESS STEEL  
TUBULAR FLANGE SUPPORT FOR BASKET LIFTING

C STRI, CENTRAL SILK BOARD  
BTM LAYOUT, MADIWALA  
BANGALORE - 560068

All dimension in mm.

**Fig. 8**

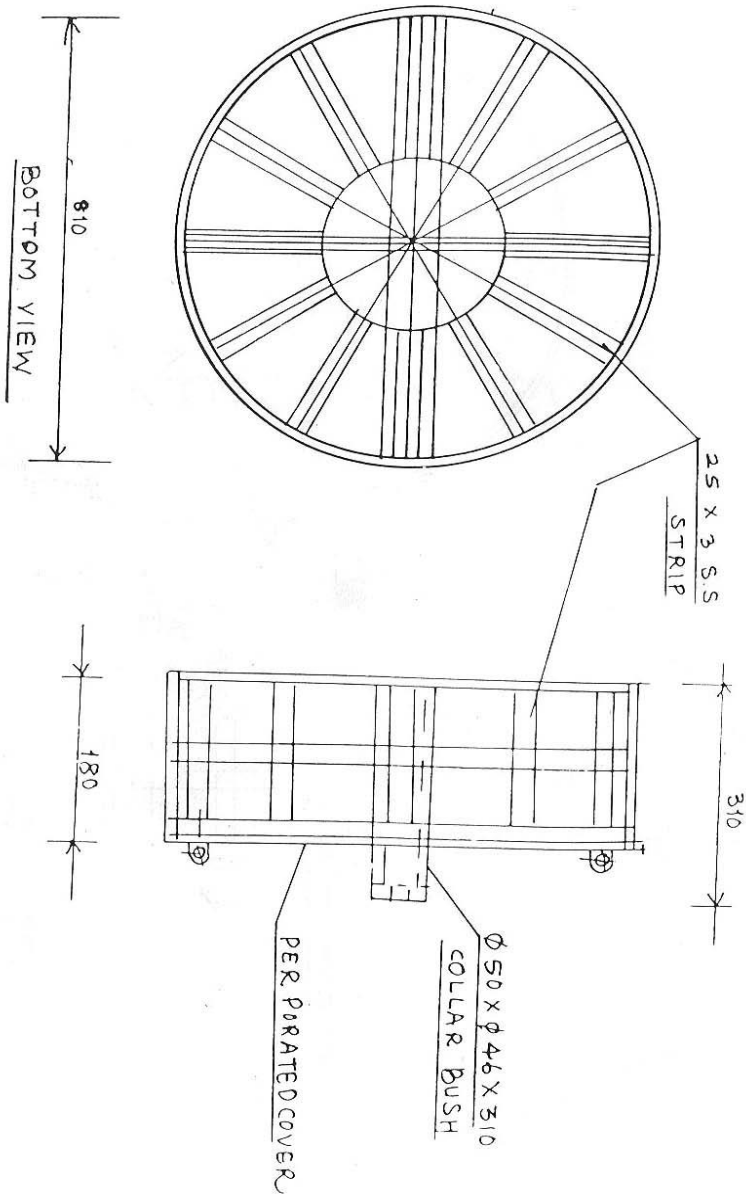
CSTR, CENTRAL SILK BOARD  
 BTMLAYOUT, MADIWALA  
 BANGALORE - 560068



**Fig. 9**

MATERIAL - SS.

# COCOON CAGE HOLDING BASKET



ESTRI, CENTRAL SILK BOARD  
BTM LAYOUT, MADIWALA  
BANGALORE - 560068

SIDE VIEW

MATERIAL: S.S.

All dimensions in mm.

**Fig.10**

#### **IV. Specification of CSTRI Reel Permeation Chamber**

##### **a. VACUUM TANK :**

- a) The chamber shall be made of 2.5 mm thick stainless steel sheet.
- b) Flanges shall be made of 50 X 12 mm thickness stainless steel flat or 25mm X 25mm stainless steel flange. The bottom chamber flange shall have a groove of 25 mm width X 6mm depth or 12mm radius groove.
- c) Reel permeation chamber bottom portion plate shall be made of 3mm stainless steel sheet along with 25mm X 6mm stainless steel angle reinforcement.
- d) The tank shall be of 625mm height X 750mm diameter to hold 20 reels per batch.

##### **b. WATER :**

- a) 13 mm (1/2") collar for water inlet and 13 mm SS Ball valve for controlling the water flow shall be provided.
- b) Capacity of water tank shall be about 260 litres
- c) 13mm (1/2") stainless steel ball valve for draining out water at the bottom of the tank shall be provided.

##### **c. LID**

- a) The top lid shall be made of 3mm thick stainless steel sheet and attached with a ring made of 50mm X 12 mm stainless steel flat (machined) or 25mm x 25mm SS flange. The depth of the lid curvature shall be minimum 75mm (3"). The rings seating shall be machined to avoid air leakage.
- b) The opening of the lid shall be supported by 50mm X 12 mm SS flat.
- c) A rubber gasket shall be used with dimensions of 25mm width and 12 mm thickness or 1/2" round rubber.
- d) The chamber shall be fitted with a vacuum gauge 50mm diameter, 0 ~ 700 mm Hg and a brass / Stainless steel air inlet ball valve of 1/2 " or 1" valve.

##### **d. VACUUM PUMP**

- c) Direct drive rotary water ring vacuum pump / Oil vacuum pump / diaphragm vacuum pump with 1/2 HP, 3-phase motor having air displacing capacity 100/150 litres per minute and negative pressure of 500 mm Hg (20 psi) shall be provided.
- d) Permeation chamber and vacuum pump shall be inter connected by 13mm (1/2") braided hose pipe with air expansion chamber of size 100mm diameter and 458mm height with inlet collar and outlet brass wheel valve or 13mm stainless steel ball valve.

##### **e. REEL IMMERSION STAND**

- a) 4 Nos. Stainless steel stands to accommodate 5 reels each shall be provided for immersing reels in reel permeation chamber with aluminum base plate.



**ANNEXURE-B**

**(Undertaking from Bidder on their official stationery)**

To  
The Director  
CSR&TI, Berhampore  
Dist. Murshidabad, West Bengal

Sir,

**Subject: Undertaking for the participation in the tender no. CSB/ CSR&TI/ S&P /  
Pur-18 /19-20/23 due for opening of technical bid on 04.03.2020 –Reg.**

Dear Sir,

HAVING EXAMINED AND PERUSED THE FOLLOWING DOCUMENTS

1. Notice Inviting Tender
2. Instructions to the Tenderer
3. Technical Specifications ( 4 components)-Annexure A

I/ We ..... do hereby submit the above duly completed in all respects in accordance with the conditions applicable. If this tender is accepted, I/we agree to abide by and fulfil all the terms and conditions in the tender document.

I/we hereby distinctly and expressly declare and acknowledge that before the submission of this tender, I/we have carefully read and followed the instructions and I/we have understood the existing system of supply at the location of purchaser including the scope and nature of duties expected from the Bidder.

I/we distinctly agree that I /we would hereafter make no claim or demand upon the purchaser based upon or arising out of any alleged misunderstanding or misconceptions or mistake on my /our part of the said stipulations, restrictions and conditions.

I/we declare that our unit has never made any default in supplying the machine / equipment to Government/ Semi Government/ Central or State Public sector enterprise(s) for any reasons in the last five years.

Any notice required to be served on me/us shall be sufficiently served on me/ us through email or post (registered or ordinary) or courier or left at my/our address furnished herein.

.....  
.....

I/we fully understand the terms and conditions in the tender documents.

I/ we understand that the purchaser is not bound to accept any proposal that it may receive without assigning any reason.

Dated: .....day of .....2020.

Authorised Signatory  
Seal