

**HLL LIFECARE LTD,
CENTRAL ENGINEERING DIVISION
PEROORKADA FACTORY,
THIRUVANANTHAPURAM – 695 005,
KERALA, INDIA.
PHN: ++91 471 2437270
FAX: ++91 471 2432647**

TENDER DOCUMENT

**SUPPLY, INSTALLATION, INTEGRATION,
TESTING AND COMMISSIONING OF ON LINE
POWDER FINISHING SYSTEM FOR THE BTADL
CONDOM DIPPING MACHINE
AT
HLL KANAGALA FACTORY**

**IFB No.: HLL/CED/CON-AUG /SITC/ONLINE PFS/BTADL CDM/KFB/2013-14
DATE: 19.02.2014**

HLL LIFECARE LIMITED
 (A Government of India Enterprise)
 Central Engineering Division, Peroorkada. P.O,
 Thiruvananthapuram – 695005,
 Kerala, India
 Phn: 0471- 2433374,2437270, 2435090
 Fax No. (0471) 2432647

INVITATION FOR BIDS (IFB)

IFB No.: HLL/CED/CON-AUG /SITC/ONLINE PFS/BTADL CDM/KFB/2014
 DATE:19.02.2014

HLL Lifecare Limited (HLL) invites sealed and super scribed bids from competent and experienced eligible Suppliers/Contractors for the supply of following item in connection with the Augmentation of condom production at our factory in Kanagala, Karnataka.

| Sl. No | Brief Description of Item/Work | Quantity | EMD |
|--------|---|--------------------------|-----------|
| 1 | Supply, Installation, Integration, Testing and Commissioning of On Line powder finishing operation system for the BTADL Condom Dipping Machine on turnkey basis as per drawing and specifications at our HLL, Kanagala Factory, Karnataka | As per schedule of items | RS.5000/- |

I. INSTRUCTION TO BIDDERS:

1. A complete set of bid documents can be had from the Office of the Associate Vice President (CED), Central Engineering Division, HLL Lifecare Limited, Peroorkada Factory, Thiruvananthapuram – 695 005, Kerala, India during office hours on any working day on submission of written application.

The Tender Documents can also be downloaded from our Website www.lifecarehll.com and the Central Public Procurement Portal of Government of India www.eprocure.gov.in from the date of issue of tender document. Tender forms shall be filled in ink or typed. No tender filled in pencil shall be considered. The tenderer shall sign and seal the form at each page and at the end, in token of acceptance of all the terms and conditions of the tender. Any subsequent changes/amendments will be published only in our website & CPP portal.

2. The scheduled date for issue, receipt and opening of bids is as follows.

- a) Date of issue of tender document - 19.02.2014
- b) Last date and time for receipt of bids - 28.02.2014 up to 15.00 Hrs.
- c) Date and time of opening of bids - 28.02.2014, 15.30 Hrs.
- d) Address for communication, receipt and place of opening of bids:

Associate Vice President (CED)
Central Engineering Division,
HLL Lifecare Limited (A Government of India Enterprise),
PB No 2, Peroorkada, Thiruvananthapuram – 695005,
Kerala State, India
Ph: (++91 471) 2433374,2437270 –501,502
Tele Fax: (++ 91 471) 2432647
E-mail: srnair@lifecarehll.com, rajeevrv@lifecarehll.com

3. All the bidders are requested to attend the pre-bid meeting is scheduled on 14-01-2013,2.30PM at AVP(CED)'s office

4. The Bid must include the following information;

- a. Enquiry No.
- b. EMD
- c. Promised Delivery Schedule for each item.
- d. Acceptance Form (Schedule III)
- e. Price Schedule in Format For Quoting (Schedule IV)
- f. All other documents/certificate/information as specified in the bid document.

5. Each bid must be accompanied by E.M.D. The EMD shall be in the form of Demand Draft from a nationalized bank drawn in favour of HLL LIFECARE LTD, Thiruvananthapuram payable at Thiruvananthapuram. E.M.D. of the unsuccessful bidders will be released after evaluating tenders, keeping only the earnest money of the first three lowest bidders. The earnest money deposit of the remaining two unsuccessful bidders will be released after the acceptance of the notification of award by the successful bidder. The EMD may be forfeited, if a Bidder withdraws his bid during the period of bid validity specified by the Bidder on the Bid Document.

6. SSI units interested in availing exemption from payment of EMD should submit a valid copy of their registration certificate issued by the concerned DIC or NSIC.

7. In addition to the invitation for bids, the bidding documents include the following schedules.

| | |
|--------------|------------------------------|
| Schedule I | - Instruction to the Bidders |
| Schedule II | - Conditions of Contract |
| Schedule III | - Acceptance Form |
| Schedule IV | - Format for quoting |

8. The completed and sealed bid documents should be submitted to Associate Vice President (CED), in the above address. The outer cover should bear the Enquiry No, closing date and General description of item tendered, and the words "DO NOT OPEN BEFORE" 15.30 Hrs (IST) on ----- (Indicate the Closing Date).

9. Bids will be opened in the presence of bidders' representative(s) who choose to attend on the specified date and time, at the office of HLL at the address given in Clause 2 (d) above.

10. In the event of the date specified for bid receipt and opening being declared as a closed holiday for purchaser's office, the due date for submission of bids and opening of bids will be the following working day at the appointed times.

11. The purchaser may, at its discretion, extend this deadline for submission of bids by amending the Bid Documents or any other reasons, in which case all rights and obligations of the Purchaser and Bidders previously subject to the deadline will thereafter be subject to the deadline as extended.

12. Purchaser will not be held responsible for the postal delay, if any, in the delivery of the bidding document or the non-receipt of the same. Bids sent by Telex/Fax/Telegraph will not be accepted.

13 HLL reserves the right to club or split the items of works, change the qualifying criteria at their discretion and to reject or cancel the Invitation for bids without assigning any reason thereof.

ASSOCIATE VICE PRESIDENT (CED)

SCHEDULE II**CONDITIONS OF CONTRACT****1) PRICE**

The price quoted should be inclusive of Basic Price, all applicable taxes and duties including VAT, Entry tax, Octroi & other levies, P&F charges, loading and unloading charges, insurance, etc. The Supplier should pay entry taxes, as applicable and should be included in the offer.

The Format for Quoting (Schedule IV) shall be suitably filled as applicable. The quoted rate shall be valid for a period of 31st March 2014. No price escalation and no change in terms and conditions will be allowed on any ground till the order is completely executed.

2) TAXES/DUTIES/LEVIES

The supplier shall be entirely responsible for all taxes including entry tax, duties, license fees, etc. incurred until successful completion of contract. All central, state, municipal taxes, duties and levies payable shall be shown by the bidder separately in the Bid. The Purchaser will issue necessary 'C' Form, if required.

3) COMPLETION TIME

- a. The item should be delivered within 21 days from the date of issuing the Letter of Intent or Supply Order.
- b. The quantity mentioned herein are approximate requirement with staggered delivery.
- c. In case less or more quantity is required the suppliers should be prepared to effect supply at short notice on the same terms and conditions.

4) GUARANTEE PERIOD

The Guarantee against any possible manufacturing defects shall be given for a period of 18 months from the date of supply and inspection of the item at HLL site or 12 months from the date of supply, whichever is earlier.

5) DELIVERY ADDRESS

Senior Manager (CP)
HLL Lifecare Limited (A Government of India Enterprise),
Kanagala, Dist , Belgaum – 591225,
Karnataka State, India
Ph: (++91 833) 279244,279207
Tele Fax: (++ 91 833) 279245
e-mail:krkrnair@lifecarehll.com

6) LIQUIDATED DAMAGES FOR DELAYS

If the material is not supplied to the purchaser within the time stipulated in the Order, Purchaser may at their option, either (1) recover from the Supplier liquidated damages at the rate of 0.5 % of the total purchase order value for every week of delay, subject to a maximum of 7.5 % of the total purchase order value, or (2) at the risk and cost of the Supplier and without prejudice to the other remedies/rights as per the Contract, terminate the order wholly or partially and complete it themselves or reassign it to other Suppliers.

7) Payment Terms

- a) 60% of the payment shall be released after satisfactory installation integration, testing and trial run of Online Powder finishing system and satisfactory continuous operation for a period of 7 days.
- b) Balance 30% of the payment shall be released within 45 days of satisfactory continuous operation for 2 shift operation/days (16hrs) / 45 days validation, performance evaluation in terms of quality, quantity and commissioning and final acceptance certificate issued by the competent authority.
- c) The balance 10% payment shall be released against a performance guarantee valid for a period of one year from the date of the issue of final acceptance certificate of the entire system

8) SETTLEMENT OF DISPUTES

Any disputes or differences or questions or claims arising under or relating to or touching this agreement shall be referred for arbitration to a Sole Arbitrator under the provisions of the Arbitration and Conciliation Act 1996 or any statutory modification or re-enactment thereof for the time be in force. The award passed by the arbitrator shall be final and binding on the parties hereto.

The contract shall be deemed to have been concluded at Thiruvananthapuram, Kerala and suits and proceedings, if any, shall be only in the courts of competent jurisdiction in Thiruvananthapuram.

The venue of arbitration shall be the place from where the contract is issued.

The company reserves the right to club or split the items of supply and reject or cancel the Invitation for bids without assigning any reason thereof.

SCHEDULE III**SPECIFICATIONS****Part - A****Requirement**

HLL require On Line powder finishing operation system of quantity 2 nos (1 Set each) for two Butterfly Type Automatic Double Line Condom Dipping Machine at our factory in Kanagala, Karnataka.

Specifications

Item: As per drawing no.

1. HLL-CED-C2-011-3(Internal screw drum conveyor)
2. HLL-CED-C2-011-02(De-hydrator)
3. HLL-CED-C2-011-04(Structure for whole system)
4. HLL-CED-C2-011-00(Assembly of on line powder finishing system)
- 5.HLL-CED-C2-011-05(Circulation Tank)

Powder finishing product:

Natural Rubber Latex Male Contraceptive Condoms as per ISO 4074.

DETAILS

1. SUPPLY OF AUTOMATIC ON LINE POWDER FINISHING OPERATION AND ACCESSORIES AS PER GA DRAWING NO.HLL-CED-C2—001-00 CAPABLE OF RECEIVING OF PARTIALLY DRY CONDOMS AT THE RATE OF 170 TO 240 PCS PER MIN CONTINUOUSLY.
2. THE ELECTRICAL SYSTEM SHOULD CATER THE ONLINE POWDER FINISHING OPERATION TO COMPLETE THE WASHING AND HYDRO EXTRACTION OF CONDOMS RECEIVED FROM THE BUTTERFLY TYPE AUTOMATIC DOUBLE LINE CONDOM DIPPING MACHINE WET TUMBLER.
3. THE WORKS INVOLVED ARE INCLUSIVE OF SUITABLE DESIGN, INTEGRATION, AND SYNCHRONISATION OF THE SYSTEM TO FULFIL ONLINE POWDER FINISHING OF CONDOMS RECEIVED FROM CONDOM DIPPING

MACHINE WET TUMBLER. ALL ELECTRICAL AND ELECTRONIC COMPONENTS SHOULD AS PER INDIAN STANDARD.

4. **INPUT SYSTEM:** THE INPUT FROM THE WET TUMBLER TO THE SCREW CONVEYOR WILL BE THROUGH A FUNNEL OF SUITABLE SIZE BY GRAVITY FORCE. THE CONDOMS THEN PASS THROUGH THE INTERNAL SCREW DRUM CONVEYOR TO COMPLETE THE POWDER FINISHING PROCESS.
5. **DRIVE SYSTEM:** THE DRIVE SYSTEM USED FOR ROTATING THE INTERNAL SCREW DRUM AT **1.5 RPM** SHOULD BE WITH SUITABLE MOTORISED DRIVE HAVING TORQUE-1390 Nm AND MOTORISED GEAR SHOULD BE WITH SUITABLE MOUNTING POSITION TO ACCOMMODATE PINION AND DRUM ROTATION, LIFE LUBRICATED AND MAINTENANCE FREE. (MAKE:LENZE/SEW/NORD/ROSSI/SUMITOMO/BONFIGLIOLI) HAVING APPROX. **5 RPM OUT PUT** TO DRIVE A SPUR GEAR PINION (NO OF TEETH 25) AND DRIVEN DRUM GEAR (NO OF TEETH 85) TO GET THE FINAL DRUM SPEED OF 1.5 RPM. (**Detailed specification of geared motor is attached as Specification – Part - B**)
6. **HYDRO EXTRACTION:** AFTER POWDER FINISHING THE WET CONDOMS WILL PASS THROUGH A DEHYDRATOR HAVING DIRECT DRIVEN MOTORISED GEARBOX (SCOPE OF HLL) HOLLOW SHAFT ABLE TO ROTATING DEHYDRATOR AT A SPECIFIED SPEED. THIS WILL CATER THE EXACT NEEDS OF THE HYDROEXTRACTION PROCESS. THE ROTATING DRUM AS PER DRAWING IS TO BE STATICALLY BALANCED AT THE SPECIFIED SPEED OF 25 RPM
7. **HOT AIR FLOW:** A PRE- HEATER OF ELECTRICALLY OPERATED PROVIDED ON THE TOP OF THE DEHYDRATOR TO DRY THE CONDOMS FOR TRANSPORTATION TO TUMBLER. THIS IS TO FACILITATE THE PRE-VULCANISING OF CONDOMS. (SUPPLY OF PRE-HEATER IS UNDER HLL SCOPE).
8. **PREHEATING CHAMBER AND CHUTE:** PARTIALLY WET CONDOMS THEN PASS THROUGH THE PRE HEATED AIR BLOWING AREA. PREHEATING CHAMBER IS TO BE MADE IN SUCH A WAY THAT THE HOT AIR FROM THE

PREHEATER SHOULD BE DIRECTED TOWARDS ROTATING DEHYDRATOR. A COLLECTION CHUTE IS ALSO TO BE PROVIDED AFTER THE PREHEATING AREA SO THAT THE CONDOMS FROM THE DEHYDRATOR CAN BE COLLECTED AT THE EJECTOR.

9. **COLLECTION TANK:** A COLLECTION TANK OF MATERIAL SS SHALL BE PROVIDED AS PER THE DRAWING HLL-CED-011-05. THE TANK IS USED FOR THE COLLECTION OF LIQUID CONTAINING $MgCO_3$ & SILICON EMULSION.
10. **CIRCULATING PIPE:** A PIPE OF SIZE 1" (MATERIAL 316L) TO BE USED FOR THE CIRCULATION OF THE SOLUTION. ARGON WELDING SHOULD BE USED FOR WELDING OF PIPES.
11. **SAFETY REQUIREMENT:** NOISE LEVEL SHOULD BE 75 DB WHILE IN OPERATION.
12. **ENGINEERING REQUIREMENT:**
 - DESIGN OF EQUIPMENT SHOULD ENHANCE CLEANING FEASIBILITY BY PROVIDING NO SHARP CORNERS, MINIMUM CREVICES & SMOOTH FINISHED WELD JOINTS.
 - THE MATERIAL USED FOR THE INTERNAL SCREW DRUM CONVEYOR SHOULD BE CONSTRUCTED OF 316L GRADE STAINLESS STEEL WITH INTERNAL MIRROR SURFACE FINISH $< 0.5\mu M$ Ra. CONDOMS SHOULD NOT BE DAMAGED WHILE PASSING THROUGH THE DRUM.
 - THE MATERIAL USED FOR THE DEHYDRATOR DRUM AND MESH SHOULD BE CONSTRUCTED OF 316L GRADE STAINLESS STEEL WITH MATT SURFACE FINISH $< 1.25\mu M$ Ra. CONDOMS SHOULD NOT BE DAMAGED WHILE PASSING THROUGH THE DEHYDRATOR.
 - GASKETS, SEALS & O-RINGS COMING IN DIRECT/INDIRECT CONTACT SURFACES SHOULD BE CONSTRUCTED OF WHO APPROVED FOOD GRADE MATERIALS ONLY.
 - ALL MATERIAL SHOULD HAVE TEST CERTIFICATE.
 - EQUIPMENT SHOULD BE FABRICATED BY FOLLOWING ALL GOOD ENGINEERING PRACTICES.
 - SYSTEM SHALL BE INSPECTED & TESTED AT VENDORS SITE.

13. THE MATERIAL USED IN THE PATHS AND CONTACT PARTS SHOULD BE PERFECTLY IN CONFORMANCE TO ELIMINATE HANDLING DAMAGE TO THE NATURAL RUBBER PRODUCT AND AS PER WHO GMP STANDARDS.
14. ALL CONTROLLERS SHOULD BE SUITABLE FOR WITHSTANDING POWER FLUCTUATIONS AND WITH SOFT STARTING TECHNOLOGY. SUITABLE PANEL BOARD SHOULD BE PROVIDED AT REMOTE AREA COMPLYING ALL SAFETY NORMS.
15. NECESSARY PAINTING WORKS SUITABLE FOR DUSTY AND HOT ENVIRONMENT AS PER STANDARD NORMS.
16. STATIC ELECTRICITY DISCHARGERS SHOULD BE PROVIDED WHEREVER NECESSARY.
17. RATE SHOULD BE QUOTED SEPARATELY FOR SUPPLY AND SERVICE LIKE INTEGRATION, TESTING AND COMMISSIONING OF ONE SUCH SYSTEM AS PER PRICE SCHEDULE .BILL OF MATERIALS SHOULD BE PROVIDED SEPARATELY IN SUPPORT TO THE SUPPLY.
18. COMMISSIONING: COMMISSIONING OF THE SYSTEM OR ANY PART THEREOF SHALL BE COMMENCED BY THE BIDDER IMMEDIATELY AFTER RECEIPT OF INTIMATION FROM HLL. HLL SHALL SUPPLY THE OPERATING PERSONNEL AND ALL RAW MATERIALS, UTILITIES, LUBRICANTS, CHEMICALS SERVICES AND OTHER MATTERS REQUIRED FOR COMMISSIONING.
19. **PERFORMANCE TEST:** THE PERFORMANCE TEST SHALL BE CONDUCTED BY THE BIDDER DURING THE COMMISSIONING OF THE SYSTEM TO ASCERTAIN WHETHER THE SYSTEM CAN ATTAIN THE FUNCTIONAL GUARANTEES SPECIFIED IN THE TECHNICAL SPECIFICATION.
20. **OPERATIONAL ACCEPTANCE:** OPERATIONAL ACCEPTANCE SHALL OCCUR IN RESPECT OF THE SYSTEM WHEN THE PERFORMANCE TEST HAS BEEN SUCCESSFULLY COMPLETED AND THE FUNCTIONAL PERFORMANCES ARE MET.

21. PERIOD WARRANTY SHALL BE 12 MONTHS FROM THE DATE OF INSTALLATION AND COMMISSIONING AS CERTIFIED JOINTLY BY THE SUPPLIER AND THE PURCHASER.
22. THE BIDDER SHALL ATTEND THE PRE-BID CONFERENCE ARRANGED BY HLL BEFORE SUBMITTING THE OFFER.
23. THREE COPIES OF INSTRUCTION/OPERATIONAL MANUAL (ESPECIALLY FOR BROUGHT OUT ITEMS) AND MAINTENANCE MANUAL SHOULD BE SUPPLIED ALONG WITH THE MACHINE.
24. A LIST OF SPARE PARTS SHOULD BE PROVIDED. A MINIMUM SET OF SPARE PARTS SHOULD BE PROVIDED FOR EACH MACHINE.
25. BROUGHT OUT ITEMS SUCH AS ELECTRICAL/ELECTRONIC ITEMS, ELECTRIC HEAT BANKS ETC SHOULD BE AS PER RELEVANT INDIAN STANDARDS APPROVED CERTIFICATIONS.

SPECIFICATION**Part – B**

| | |
|---|---|
| Motorised gear box | |
| MAKE | LENZE/SEW/NORD/ROSSI/SUMITOMO |
| RATING | 0.75KW |
| RATED TORQUE | 1390 Nm |
| TYPE | HELICAL BEVEL |
| NO OF STAGES | 3 |
| POWER INPUT | ASYN. THREE PHASE AC 440V,50Hz |
| OUT PUT SHAFT | HOLLOW SHAFT 45 DIA |
| GEAR BOX DESIGN | FOOT MOUNTING WITH CENTERING |
| FLANGE AT OUTPUT END | WITHOUT FLANGE |
| LENGTH | 470mm |
| NO OF POLES | 4 |
| REDUCTION RATIO | 304.62:1 |
| OUTPUT RPM | 4.76 |
| LUBRICATION | LIFE LUBRICATED |
| MOTOR MOUNTING | INTEGRAL MOTOR/DIRECT COUPLING |
| TERMINAL BOX | TOP OF MOTOR |
| CONNECTION TYPE | STANDARD |
| ENCLOSURE | IP55 |
| DUTY CLASS | S1 |
| TEMPERATURE CLASS | F |
| COOLING | FAN COOLED |
| FACTOR OF SAFETY | >1 |
| RULE | CONSTRUCTION SAFETY |
| MOTOR CODE C86 | SELECTION CODE FOR OPERATION ON SERVO INVERTER |
| SURFACE AND CORROSION PROTECTION | OXS-S (CORROSIVITY CATEGORY C1) |
| EFFICIENCY CLASS | IE1 |

Equivalent to Lenze model no. GK S11 -3M HAR 100C32 ; MDEMAYX100-32C1N

SCHEDULE IV
ACCEPTANCE FORM

(To be submitted in the letter pad of the firm indicating full name and address, telephone & fax numbers etc.)

From

To

Associate Vice President (CED)
Central Engineering Division,
HLL Lifecare Limited (A Government of India Enterprise),
PB No 2, Peroorkada, Thiruvananthapuram – 695005,
Kerala State, India
Ph: (++91 471) 2433374,2437270 –501,502
Tele Fax: (++ 91 471) 2432647
E-mail: srnair@lifecarehll.com, rajeevrv@lifecarehll.com

Dear Sir,

I / We, hereby offer to supply materials as detailed in schedule here to or such portion thereof as you may specify in the acceptance of Bid at the price given in the price bid and agree to hold this offer open till 90 days after the date of bid opening prescribed by the purchaser. I/We have understood the terms and conditions mentioned in the invitation for bid and Conditions of Contract furnished by you and have thoroughly examined the specifications and drawings in the bid document hereto and are fully aware of the nature of the scope of supply and my/our offer is to comply strictly in accordance with the requirement and the terms and conditions mentioned above. I/We have understood that the PURCHASER is the sole owner of the technology, equipment, specification and drawings given along with the bidding documents. I/we here by assure that the above information will be kept confidential and will not be used for any other purpose or will not be transferred to third party.

Yours faithfully,

SIGNATURE OF THE BIDDER

**SCHEDULE V
FORMAT FOR QUOTING**

**SCHEDULE FOR SUPPLY INSTALLATION, INTEGRATION, TESTING AND
COMMISSIONING OF ON LINE POWDER FINISHING SYSTEM FOR THE BTADL
CONDOM DIPPING MACHINE AT KANAGALA.**

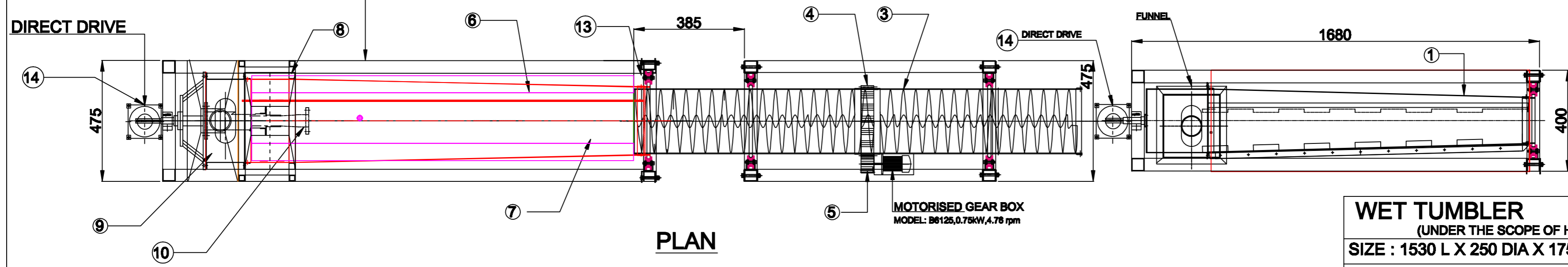
| Sl.No. | Item description | Unit | Qty. | Rate/set | Amount |
|--------|--|------|------|----------|--------|
| 1. | Supply Installation, Integration, Testing and Commissioning of Online Powder Finishing Operation System for BTADL Condom Dipping Machine | SET | 2 | | |
| | Basic price in Rs. | | | | |
| | Excise duty in Rs. | | | | |
| | Cess on excise duty | | | | |
| | CST/VAT (% to be furnished) | | | | |
| | Freight | | | | |
| | Insurance | | | | |
| | Installation charges | | | | |
| | Others, if any (please specify) | | | | |
| | Total delivered rate at HLL,Kanagala,Belgaum | | | | |

(In words)

I agree to complete the SITC as per schedule at the rates quoted by me as above and the terms and conditions of the tender document.

SIGNATURE OF THE PARTY

STRUCTURE FOR DEHYDRATOR
 REF: Drg.no; HLL-CED-C2-011-01
 SHEET NO; 2 OFF2

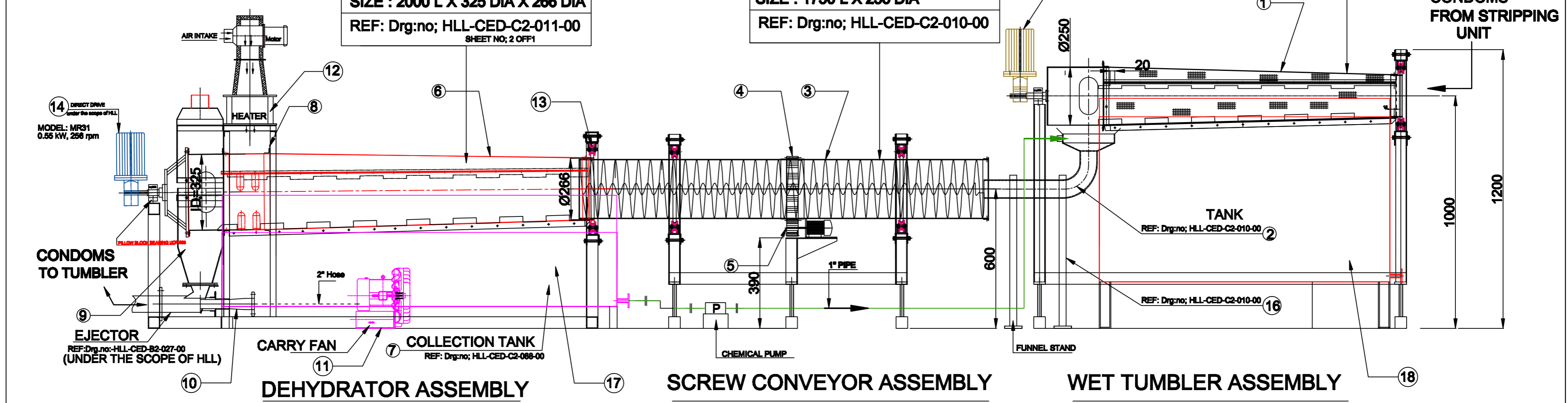


PLAN

WET TUMBLER
 (UNDER THE SCOPE OF HLL)
 SIZE : 1530 L X 250 DIA X 175 DIA
 REF: Drg.no; HLL-CED-C2-010-00

DEHYDRATOR
 SIZE : 2000 L X 325 DIA X 266 DIA
 REF: Drg.no; HLL-CED-C2-011-00
 SHEET NO; 2 OFF1

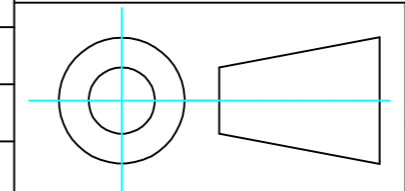
SCREW CONVEYOR
 SIZE : 1750 L X 256 DIA
 REF: Drg.no; HLL-CED-C2-010-00

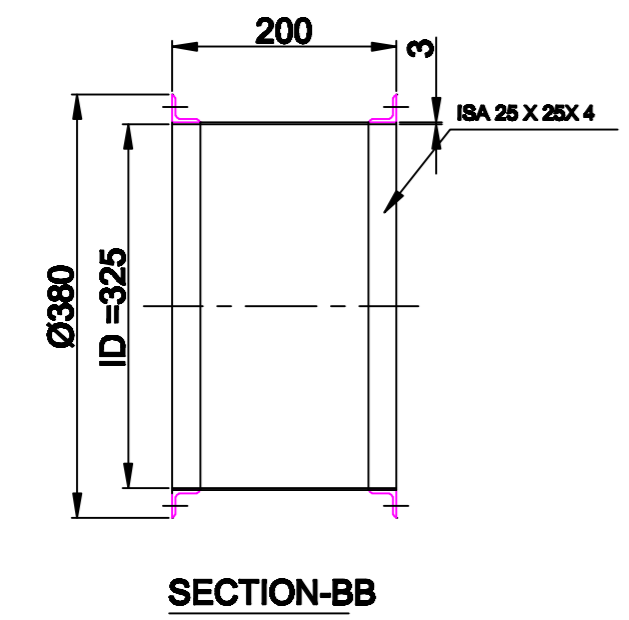
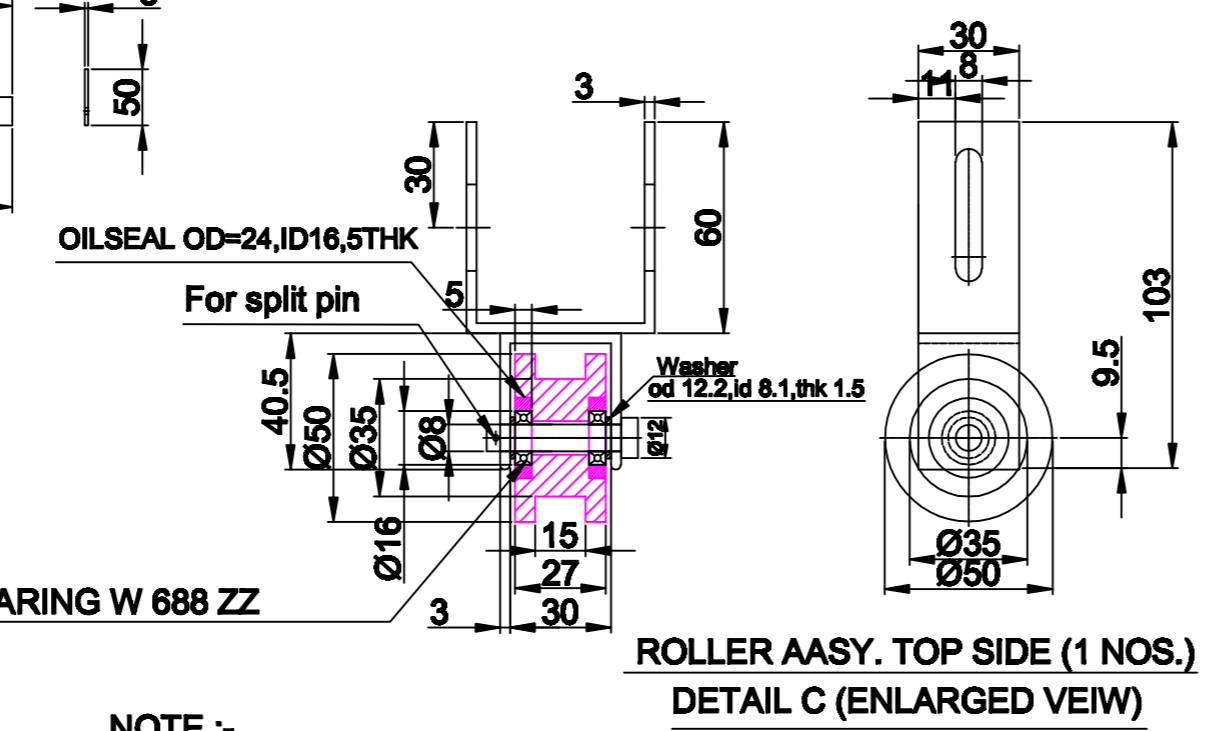
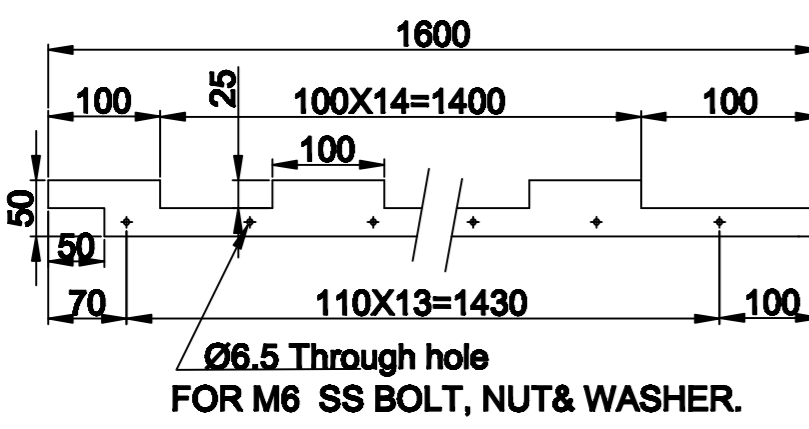
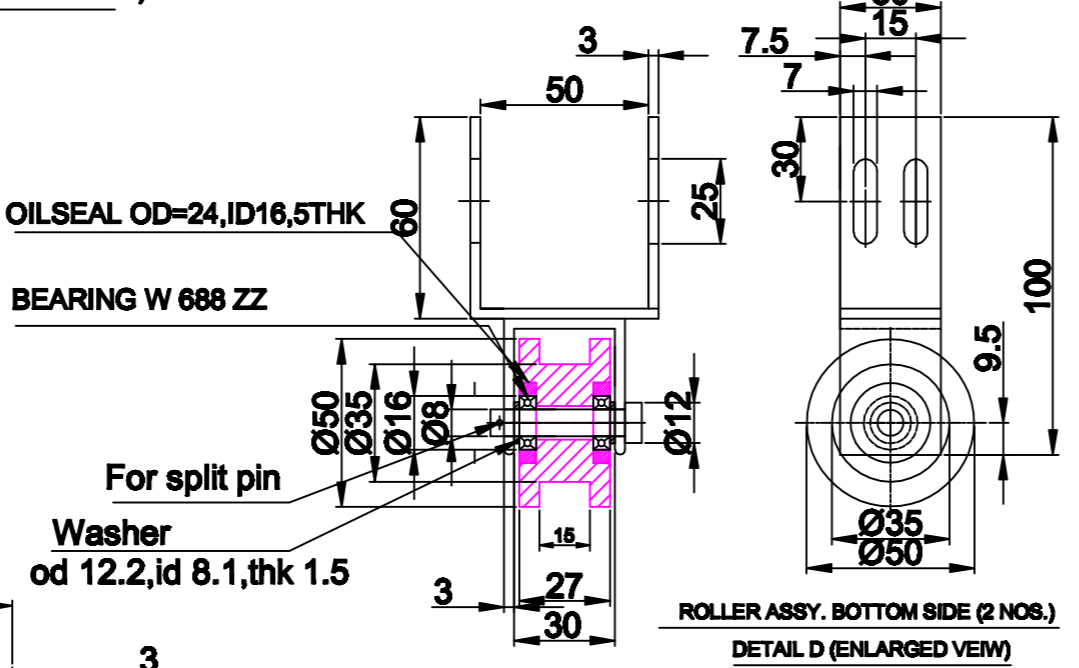
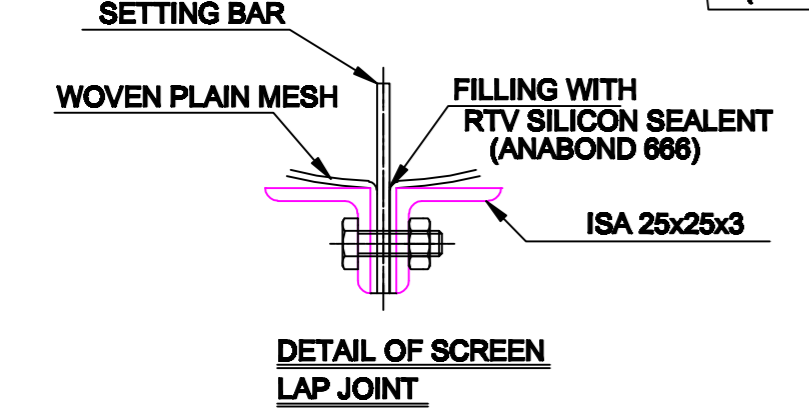
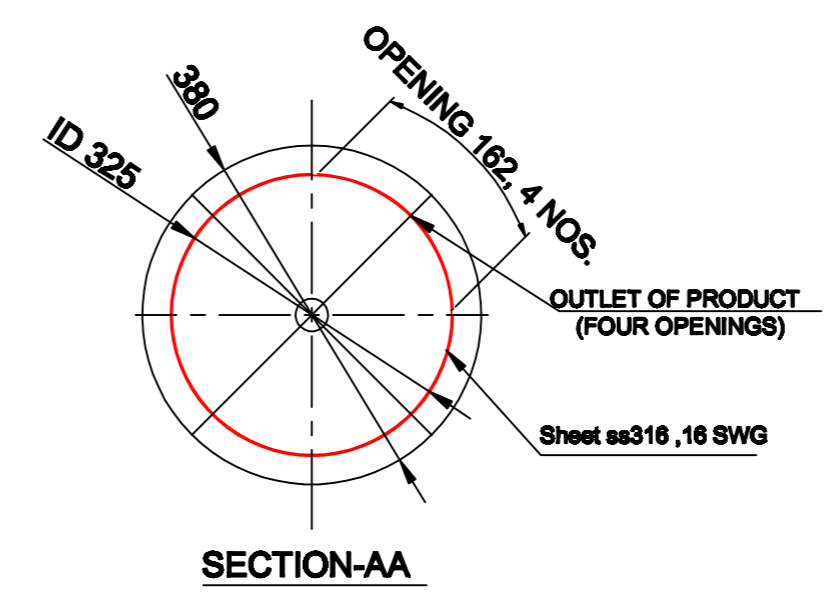
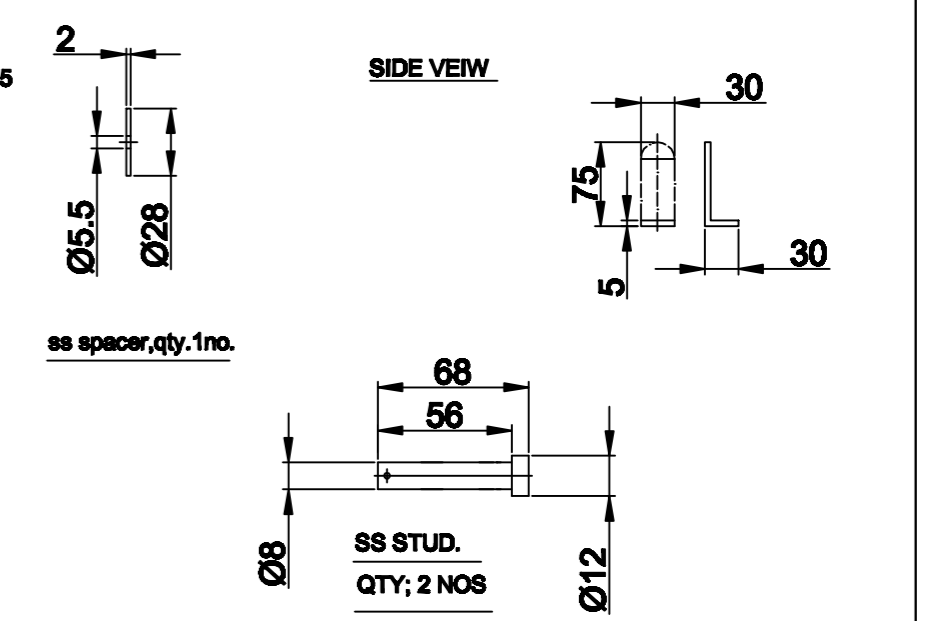
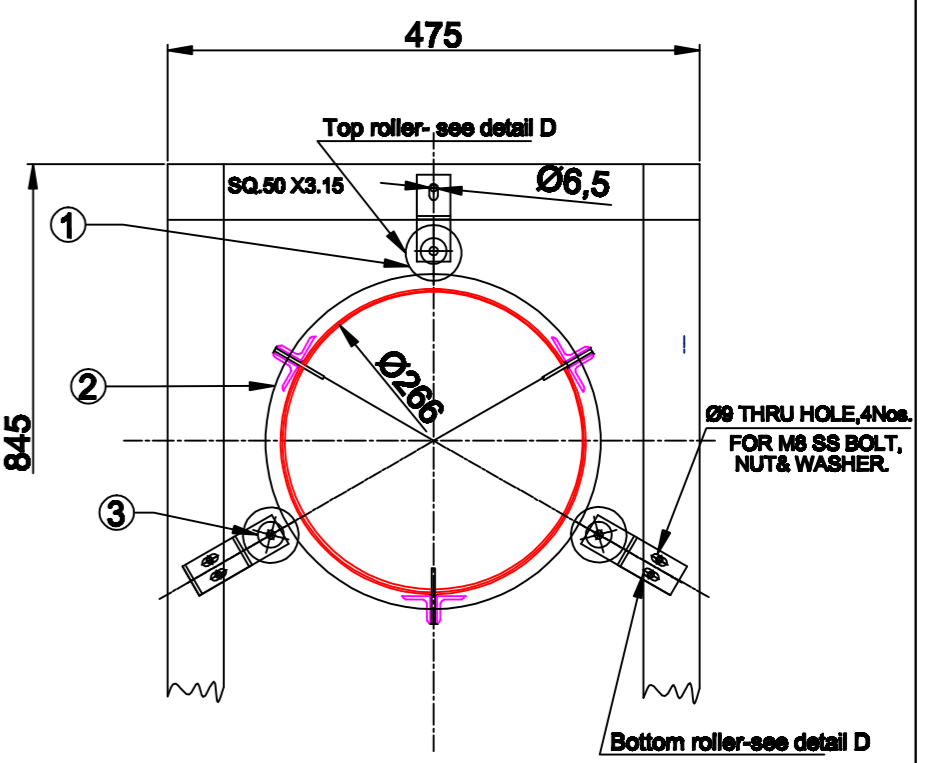
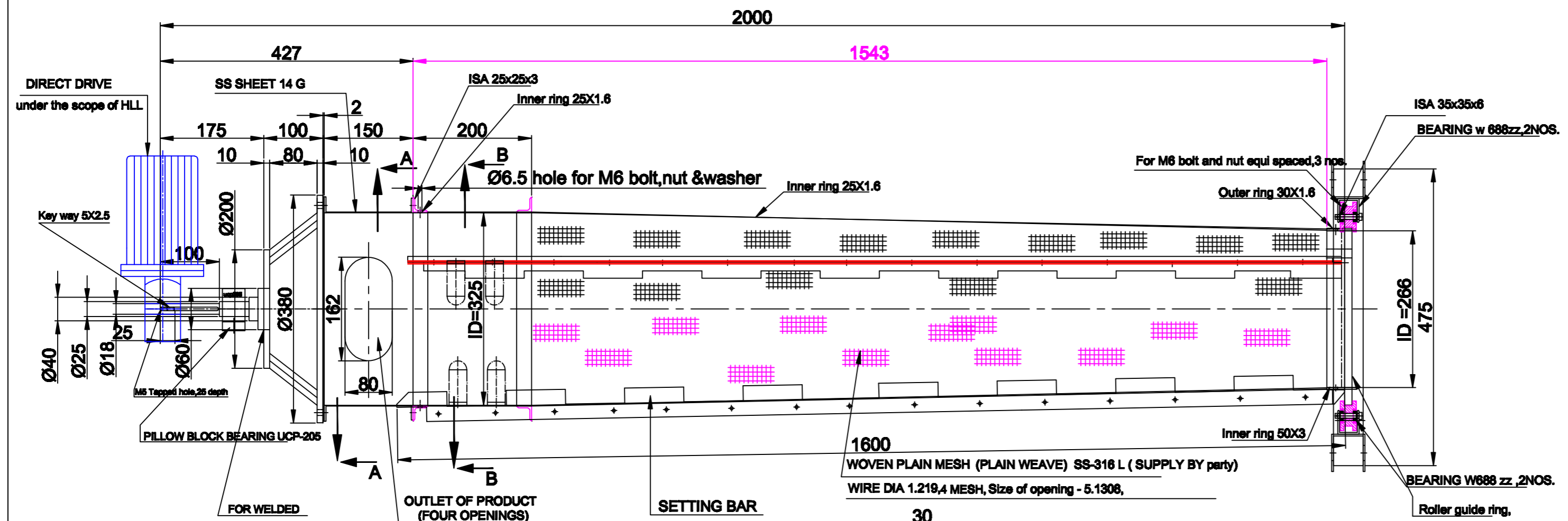


ELEVATION

| Sl.no: | DESCRIPTION | Material | Qty: | Sl.no: | Item | Material | Qty: |
|--------|----------------------|-----------|------|--------|--|----------------------------------|--------|
| 11 | CARRY FAN | | 1 NO | 20 | TSP TANK (UNDER THE SCOPE OF HLL) | AISI 316 L | 1 No |
| 10 | EJECTOR | AISI 316L | 1 NO | 19 | CIRCULATION TANK | AISI 316 L | 1 No |
| 9 | CHUTE (TOP & BOTTOM) | AISI 316L | 1 NO | 18 | FUNNEL STAND | | 2 Nos |
| 8 | HEATING BOOTH | AISI 316 | 1 NO | 17 | FUNNEL STAND | | 2 Nos |
| 7 | COLLECTION TANK | AISI 316L | 1 NO | 16 | MOTOR (SCREW CONVEYOR) | MODEL: B-6125, 0.75 KW, 4.76 rpm | 1 NO |
| 6 | DEHYDRATOR | AISI 316L | 1 NO | 15 | PANEL BOARD (UNDER THE SCOPE OF HLL) | | 1 NO |
| 5 | PINION | PEEK | 1 NO | 14 | MOTORISED GEARBOX (UNDER THE SCOPE OF HLL) | MODEL: MR31 0.55 KW, 258 rpm | 2 NOS |
| 4 | SPUR GEAR | PEEK | 1 NO | 13 | ROLLER | AISI 316 L | 12 NOS |
| 3 | SCREW CONVEYOR | AISI 304 | 1 NO | 12 | HEATER (UNDER THE SCOPE OF HLL) | | 1 NO |
| 2 | FUNNEL | AISI 304 | 1 NO | | | | |
| 1 | WET TUMBLER | AISI 304 | 1 NO | | | | |

| | | | | |
|---------------------------|--------------|-----------------------------------|--|---------|
| MATERIAL: AISI 316L | | HLL Lifecare Limited. | | NO:OFF. |
| | | Thiruvananthapuram-5 | | |
| DRAWN BY: | Fredy joseph | TITLE:- ASSEMBLY OF ONLINE POWDER | | |
| CHECKED BY: | | FINISHING OPERATION (BTADL CDM) | | |
| APPROVED BY: | | | | |
| DATE: | 14-12-2013 | Drg .no:- HLL -CED - C2 -011-00 | | |
| SCALE: | | SHEET.NO:-1 OFF.6 | | |
| ALL DIMENSIONS ARE IN M.M | | REV:0 DATE:- | | |

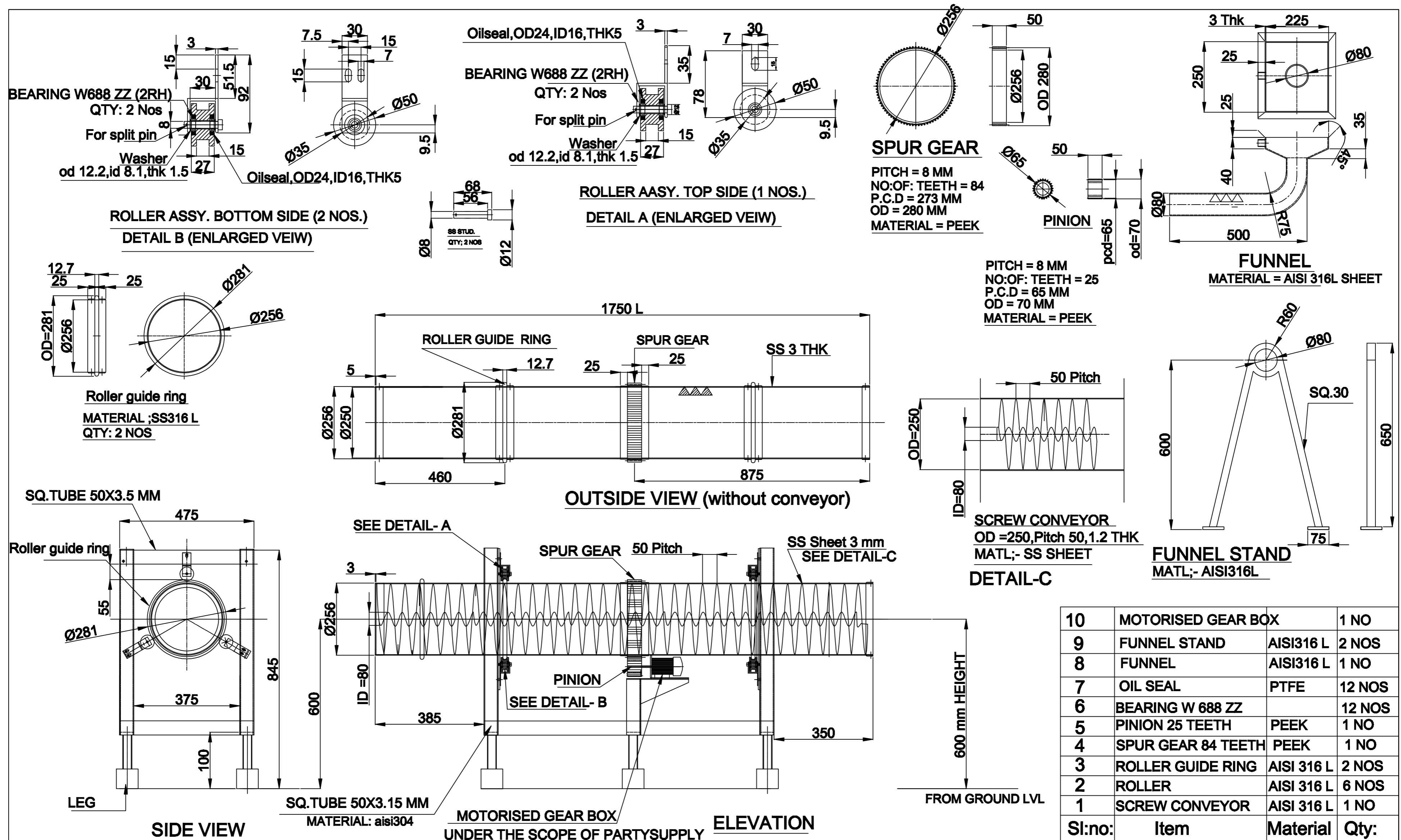




- NOTE :-
- * ALL WELDING SHOULD BE DONE USING TIG WELDING
 - * UNIT SHOULD BE IN ASSEMBLED STAGE WITH BEARING AND ALL SS FASTENERS (APL/TVS/UNBROKO) - WHEREVER NECESSARY.
 - * Bearing no.W 688 zz, Stainless steel bearing-SS 316(AISI 316) Make:- ZON / EZO / SKF , Qty. - 2nos./ roller.
 - * "STATIC BALANCE" TO BE DONE THE WHOLE ASSEMBLY

| | | | |
|--------|-------------------|------------------|--------|
| 7 | MOTORISED GEARBOX | 0.55 kW. 256 RPM | 1 NO |
| 6 | U-CLAMP | SS316L | 2 NOS |
| 5 | WOVEN PLAIN MESH | SS316L | 4 NOS |
| 4 | OIL SEAL | PTFE | 12 NOS |
| 3 | BEARING W 688 ZZ | | 12 NOS |
| 2 | ROLLER GUIDE RING | AISI 304 | 2 NOS |
| 1 | ROLLER | AISI 304 | 6 NOS |
| Sl.no: | Item | Material | Qty: |

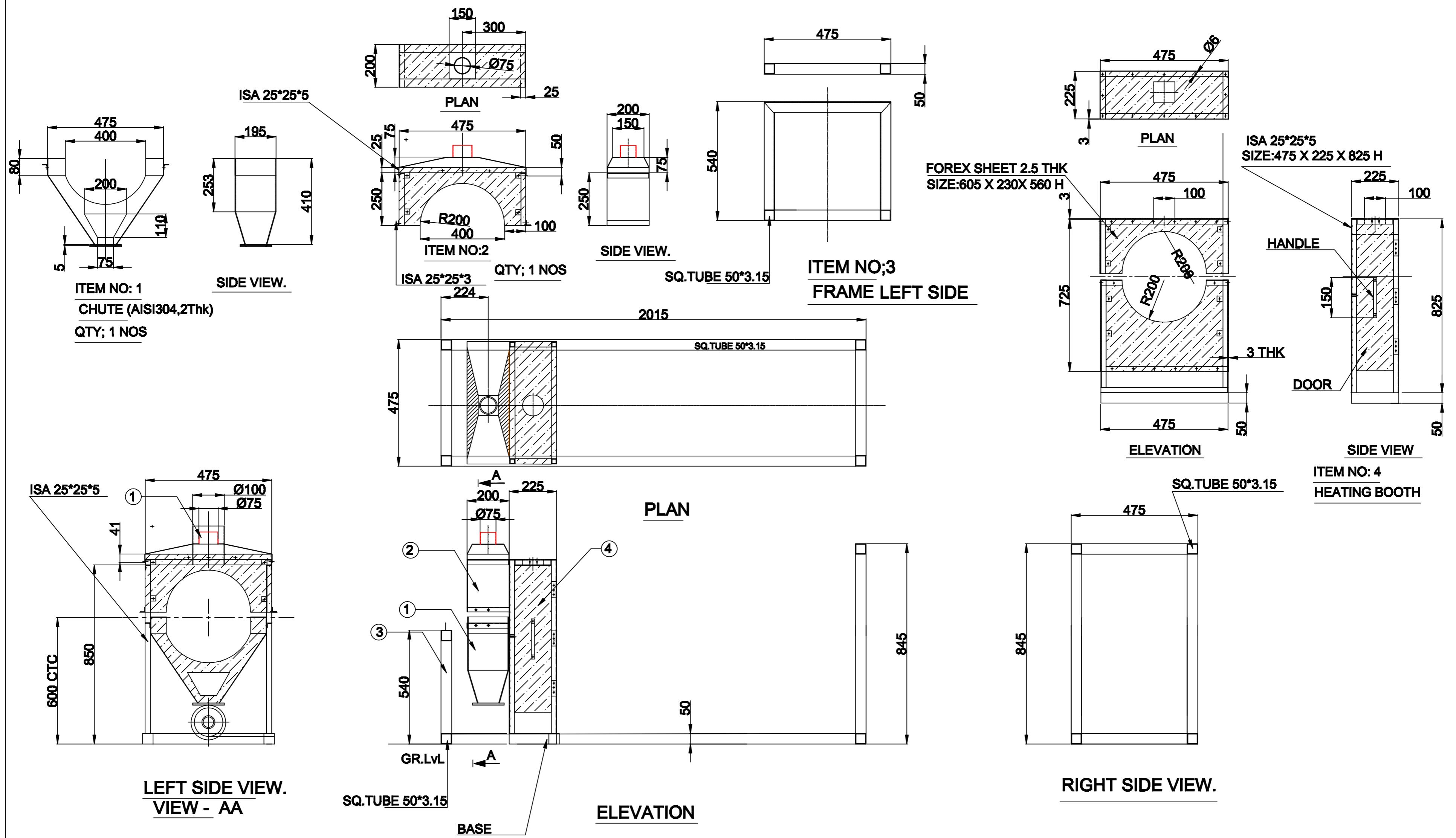
| | | | | |
|---------------------------|--|---------------------------------------|--|---------|
| MATERIAL: SS316 L | | HLL Lifecare Limited. | | NO:OFF. |
| DRAWN BY: FREDY | | Thiruvananthapuram-5 | | |
| CHECKED BY: | | TITLE:- DEHYDRATOR (BTADL CDM) | | |
| APPROVED BY: | | Drg .no:- HLL -CED - C2 -011-00 | | |
| DATE: 06-12-2013 | | SHEET.NO:-2 OFF.6 | | |
| SCALE: | | REV:-0 | | |
| ALL DIMENSIONS ARE IN M.M | | DATE:- | | |



- NOTE :-**
- * ALL WELDING SHOULD BE DONE USING TIG WELDING
 - * UNIT SHOULD BE IN ASSEMBLED STAGE WITH BEARING AND ALL SS FASTENERS (APL/TVS/UNBROKO) - WHEREVER NECESSARY.
 - * Bearing no. W 688 zz,Stainless steel bearing-SS 316(AISI 316) Make:- ZON / EZO / SKF , Qty. - 2nos./ roller.
 - * MOTORISED GEAR BOX - MODEL-B6125,0.75 Kw,4.76 RPM
 - * "STATIC BALANCE" TO BE DONE THE WHOLE ASSEMBLY

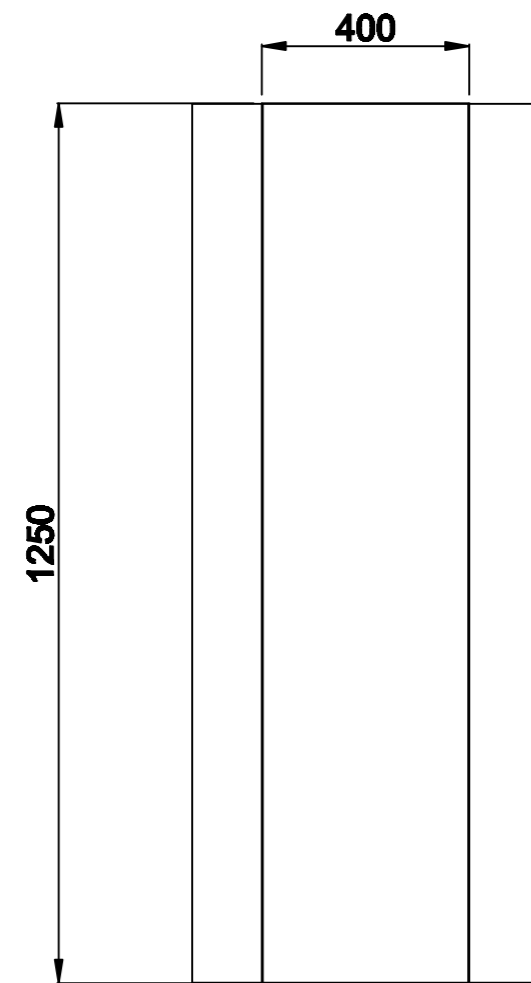
| | | | |
|--------|--------------------|------------|--------|
| 10 | MOTORISED GEAR BOX | | 1 NO |
| 9 | FUNNEL STAND | AISI316 L | 2 NOS |
| 8 | FUNNEL | AISI316 L | 1 NO |
| 7 | OIL SEAL | PTFE | 12 NOS |
| 6 | BEARING W 688 ZZ | | 12 NOS |
| 5 | PINION 25 TEETH | PEEK | 1 NO |
| 4 | SPUR GEAR 84 TEETH | PEEK | 1 NO |
| 3 | ROLLER GUIDE RING | AISI 316 L | 2 NOS |
| 2 | ROLLER | AISI 316 L | 6 NOS |
| 1 | SCREW CONVEYOR | AISI 316 L | 1 NO |
| Sl:no: | Item | Material | Qty: |

| | | | | |
|---------------------------|--|----------------------------------|--|---------|
| MATERIAL: SS316 L | | HLL Lifecare Limited. | | NO:OFF. |
| DRAWN BY: FREDY | | Thiruvananthapuram-5 | | |
| CHECKED BY: | | TITLE:- SCREW CONVEYOR | | |
| APPROVED BY: | | Drg:No:HLL-CED-C2-011-00 | | |
| DATE: 05-12-2013 | | SHEET.NO:-3OFF.6 | | |
| SCALE: | | REV:- | | |
| ALL DIMENSIONS ARE IN M.M | | DATE:- | | |

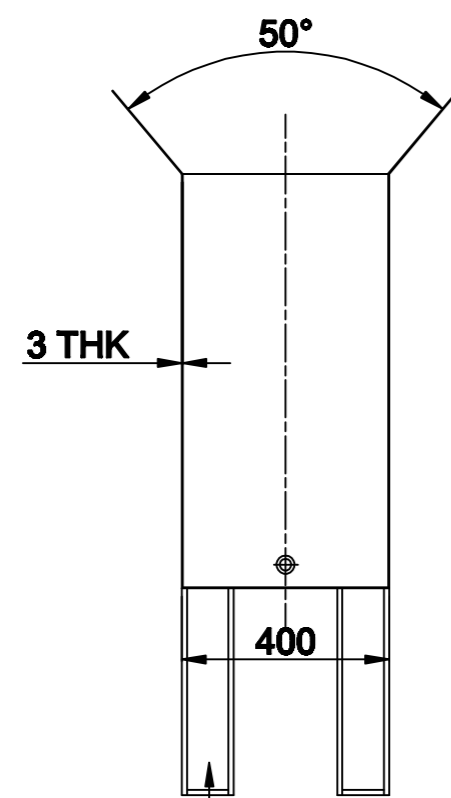


* ALL WELDING SHOULD BE DONE USING TIG WELDING

| | | | |
|---------------------------|---|--|---------------------------------|
| MATERIAL: AISI 316 L | HLL Lifecare Limited. Thiruvananthapuram-5 | | NO:OFF. |
| DRAWN BY: FREDY | TITLE:- STRUCTURE FOR DEHYDRATOR (BTADL CDM) | | Drg .no:- HLL -CED - C2 -011-00 |
| CHECKED BY: | | | |
| APPROVED BY: | | | SHEET.NO:- 4 OFF.6 |
| DATE: 08-12-2013 | | | |
| SCALE: | | | REV:-0 |
| ALL DIMENSIONS ARE IN M.M | | | DATE:- |

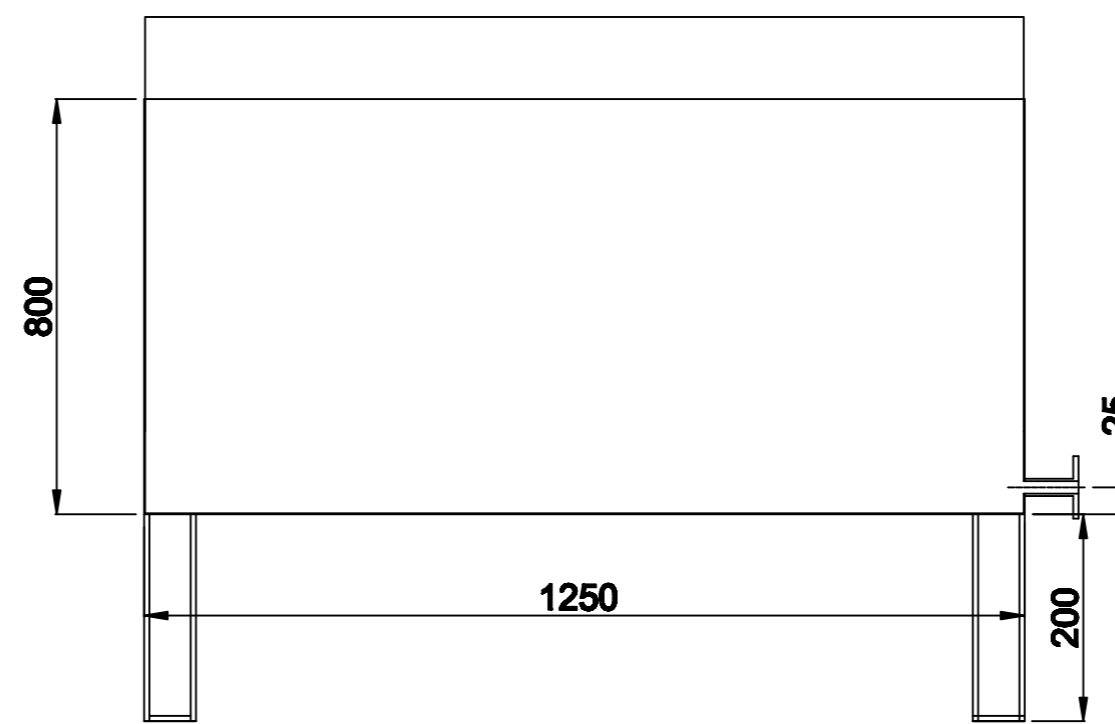


PLAN



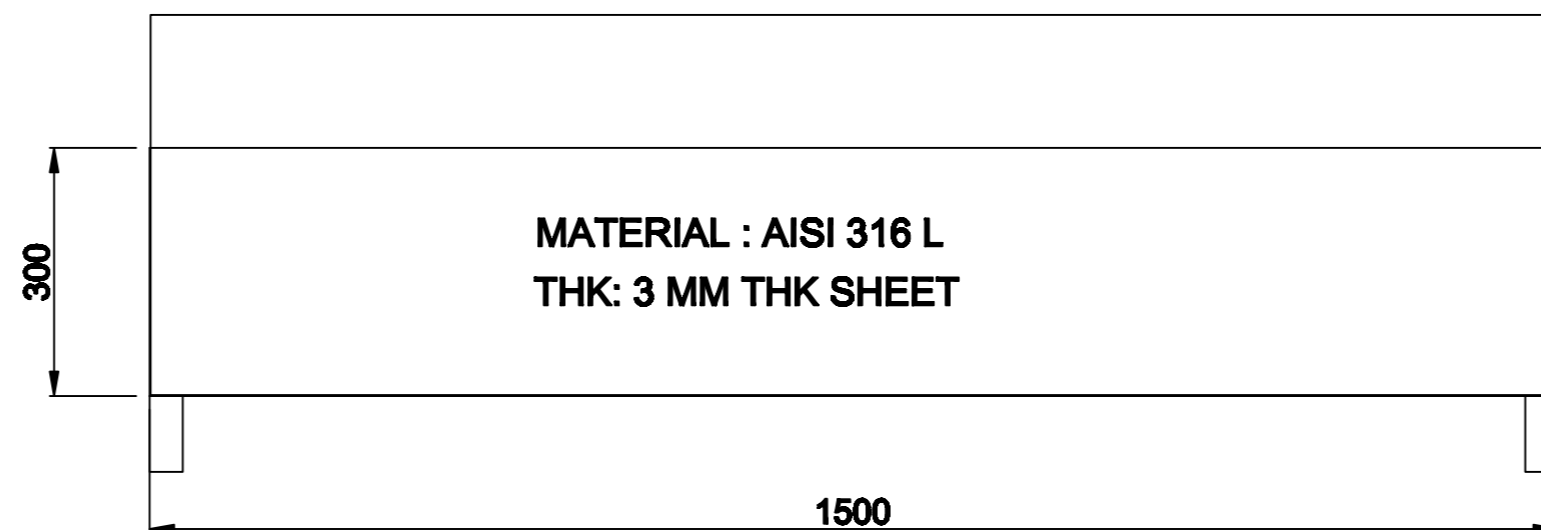
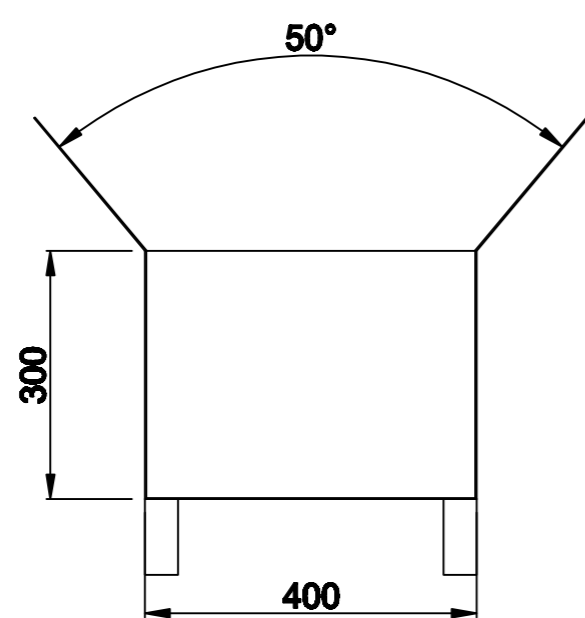
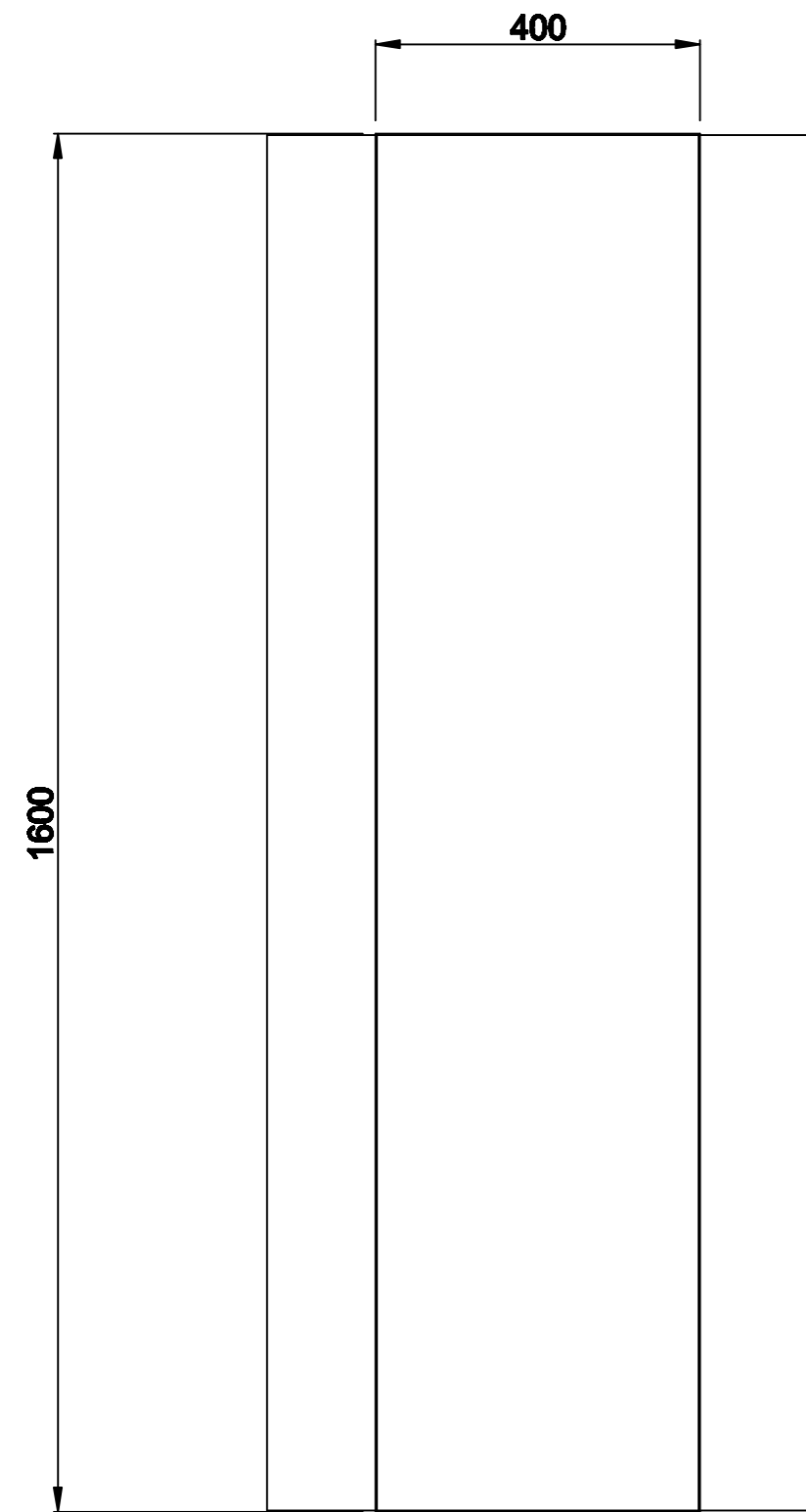
ISA 50 X 50 X 5
MATERIAL : IS228

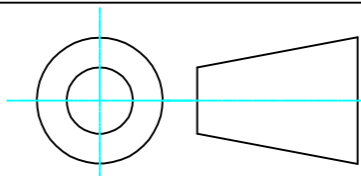
ELEVATION

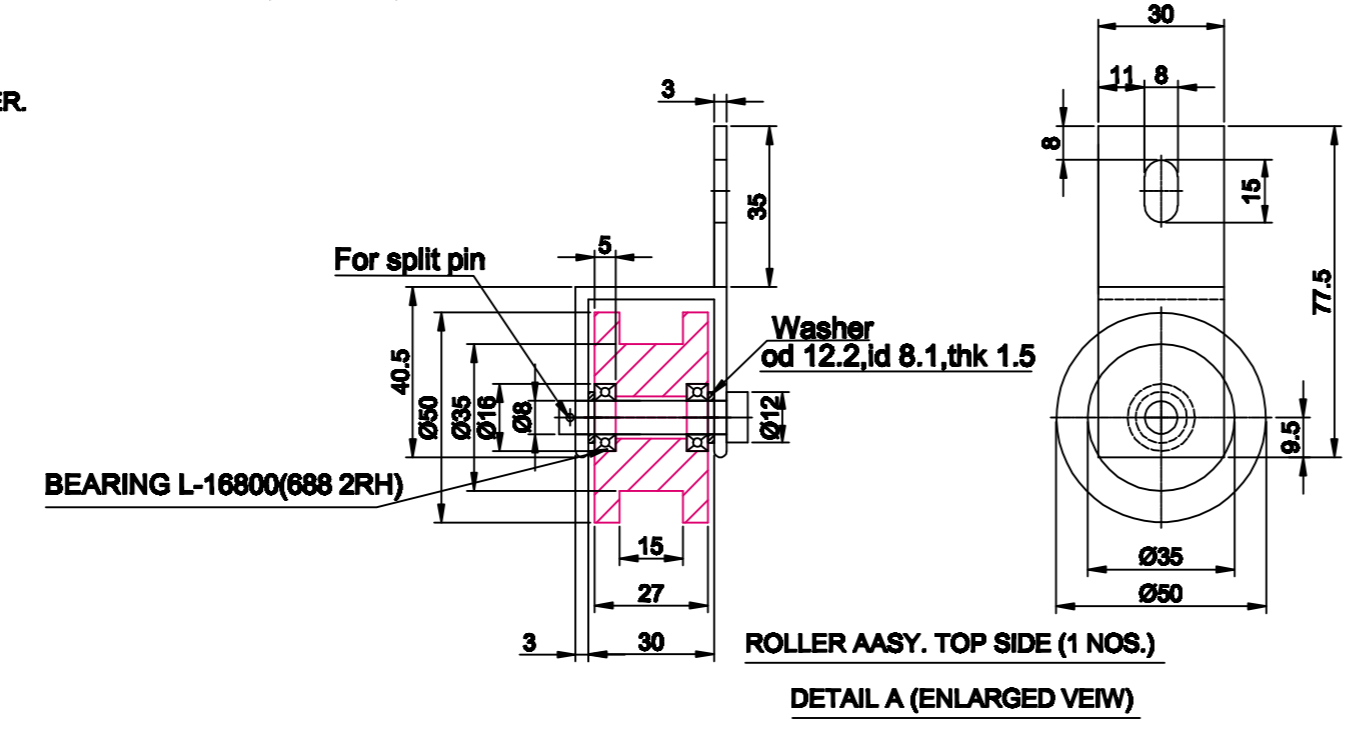
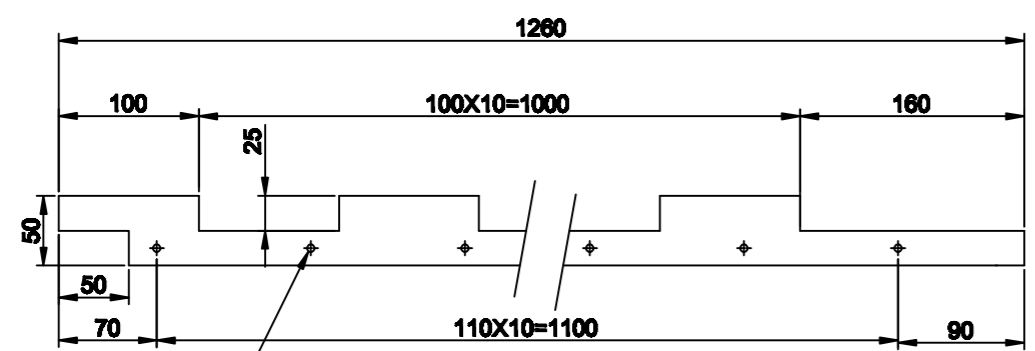
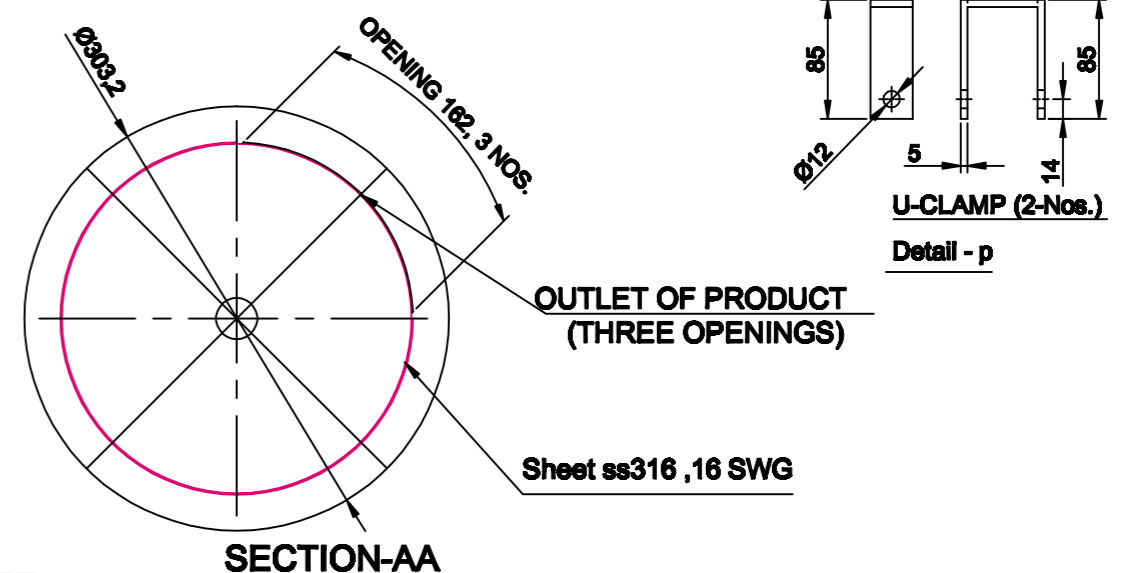
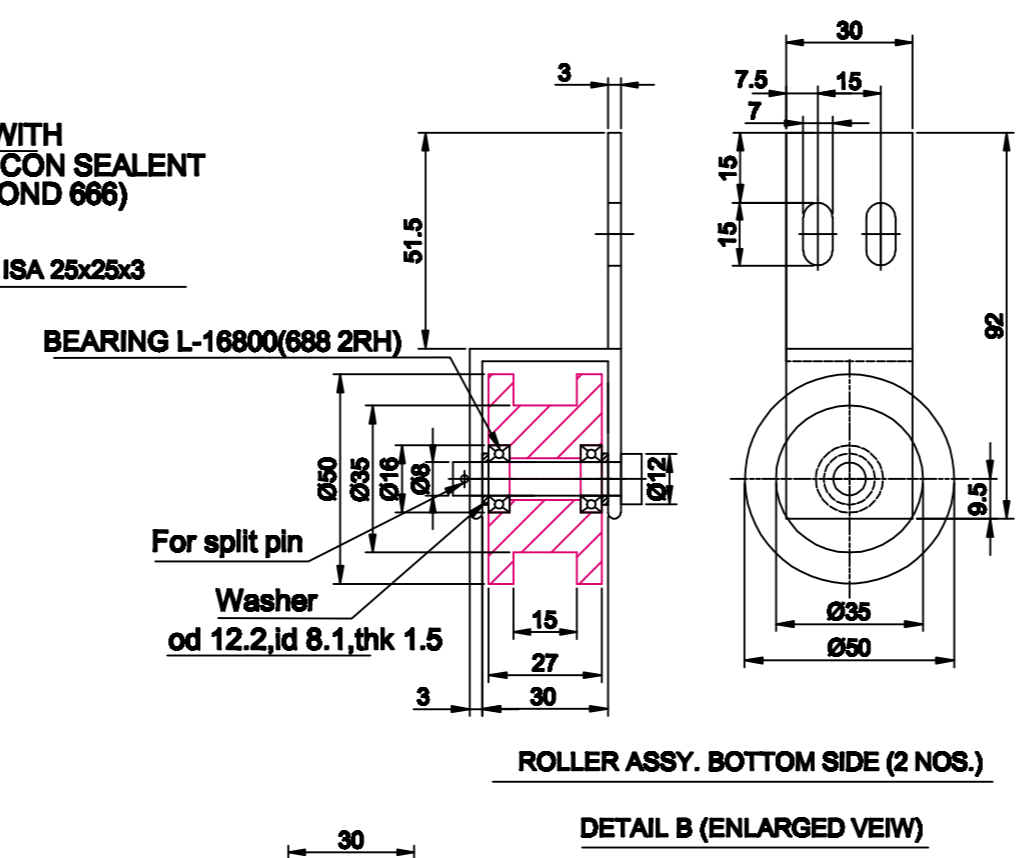
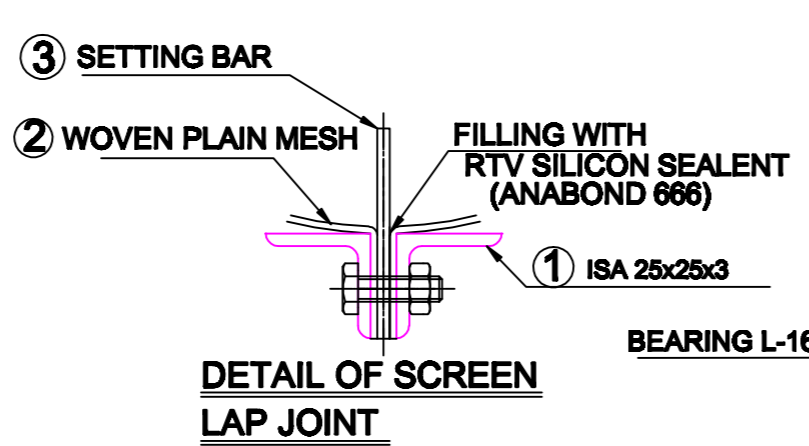
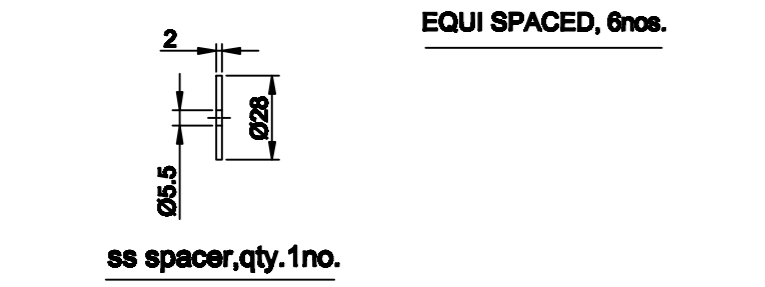
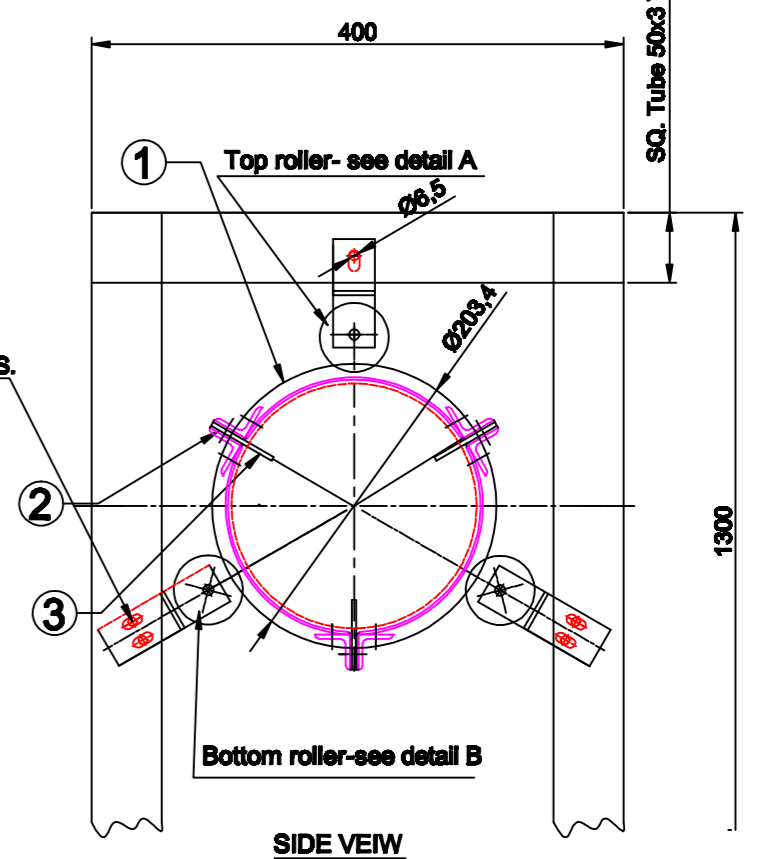
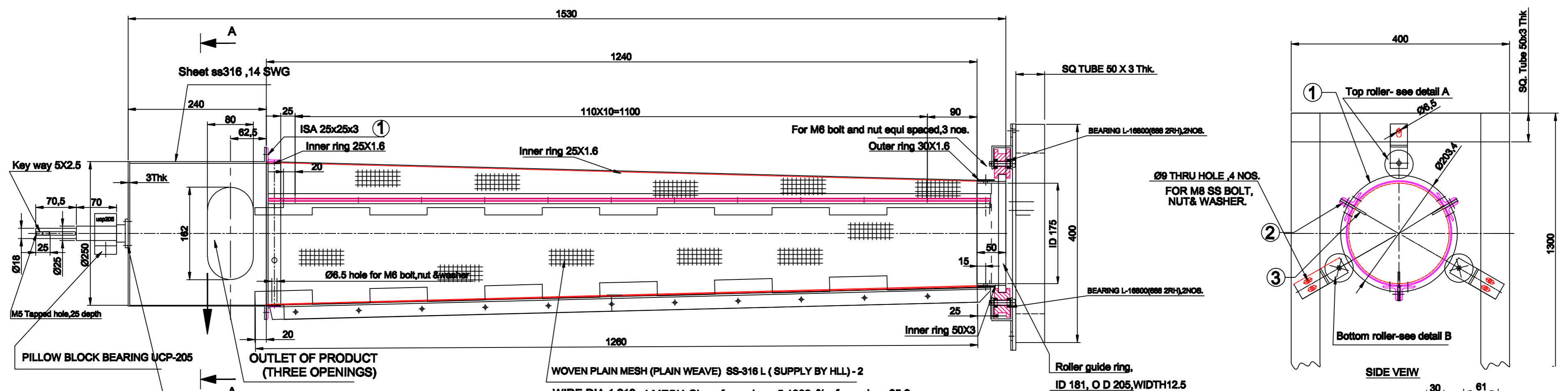


SIDE VIEW

| | | | |
|---------------------------|---|--|-------------------|
| MATERIAL: AISI 316 L | HLL Lifecare Limited. Thiruvananthapuram-5 | | NO:OFF. |
| DRAWN BY: M.P.PAUL | TITLE:- TANK FOR WET TUMBLER (BTADL CDM) | | |
| CHECKED BY: | | | |
| APPROVED BY: | Drg:No:HLL-CED-C2-011-00 | | |
| DATE: 04-01-2012 | | | |
| SCALE: | | | REV:- |
| ALL DIMENSIONS ARE IN M.M | | | SHEET.NO:-6 OFF.6 |



| | | | |
|---------------------------|------------------------------|---|---------|
| MATERIAL: | HLL Lifecare Limited. | | NO:OFF. |
| | Thiruvananthapuram-5 | | |
| DRAWN BY: | M.P.PAUL | TITLE:- CIRCULATION TANK | |
| CHECKED BY: | | (BTADL CDM) | |
| APPROVED BY: | |  | |
| DATE: | 04-01-2012 | | |
| SCALE: | | SHEET.NO:-5OFF.6 | |
| ALL DIMENSIONS ARE IN M.M | | REV:- DATE:- | |



- NOTE :-**
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 - ✗ UNIT SHOULD BE IN ASSEMBLED STAGE WITH BEARING AND ALL SS FASTENERS (APL/TVS/UNBROKO) - WHEREVER NECESSARY.
 - ✗ Bearing no. W- 688 zz, Stainless steel bearing-SS 316(AISI 316) Make:- ZON / EZO / SKF , Qty. - 2nos./ roller.
 - ✗ "STATIC BALANCE" TO BE DONE THE WHOLE ASSEMBLY

| | | | |
|---------------------------|---|--|---------------------------------|
| MATERIAL: SS316 L | HLL Lifecare Limited. Thiruvananthapuram-5 | | NO:OFF. |
| DRAWN BY: M.P.PAUL | TITLE:- WET TUMBLER(BTADL CDM) | | Drg .no:- HLL -CED - C2 -007-00 |
| CHECKED BY: | DATE: 06-12-2013 | | |
| APPROVED BY: | SCALE: | | SHEET.NO:-1OFF.1 |
| ALL DIMENSIONS ARE IN M.M | | | REV:0 DATE:- |