



INVITATION TO TENDER

Ref : OS/19-20/7850/28/050

Date : 16.09.2019

Sub : **Fabrication of Boiler Drum against S.O. 7850 at Vendor's works with free issue of raw materials.**

Dear Sir,

Sealed tenders are invited for the subject work in **two part bid** system from **IBR Registered Vendors** who are experienced in / capable of fabrication of similar jobs subject to the following eligibility criteria :

ELIGIBILITY CRITERIA

- (1) Bidders should be IBR registered vendors and should have an experience of executing similar works (i.e. Fabrication of Pressure Vessels / Equipments etc. as per IBR) for a **minimum of Two projects** as on 31st Aug'2019 and enclose Work Orders & Work Completion Certificates in support of the same. Bidders shall also have to provide the details & certificates of existing IBR welders.
 - (2) Bidders shall have to enclose the documents of Registration of Firm, Udyog Aadhar, PAN & GST.
 - (3) The works executed in the name of individual / firm of the tenderer will only be considered for eligibility criteria.
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1. LOCATION OF WORK SPOT :

The fabrication work is to be carried out at **Vendor's Works**.

2. VENDOR'S SCOPE OF WORK :

- a) Equipments to be fabricated are briefed here and the details are given in Annexure . II.

<u>S.O. No.</u>	<u>Description of Equipment</u>	<u>Qty.</u>	<u>Total Weight</u>
7850	Boiler Drum	1 Set	15.30 MT

- b) Complete Fabrication of Boiler Drum as per the GMS, Drawings, QAP, WPS / PQR & Specifications etc. listed in Annexure . II and it includes the following activities but not limited to the same :

- Fabrication of Drum which involves operations like marking, cutting, edge preparation, drilling, boring, machining, assembly, fit - up, welding & dressing, NDT (LPI, MPI, Radiography, UT etc.)
- Fabrication & Machining of all items other than drum internals like Stubs, Nozzles, Nipples, Flanges, Man Hole Door Assembly, Saddle Supports etc. which involve various operations like Marking, Cutting, Machining, Drilling, Rolling / Pressing of plates, Assembly & Welding etc.
- Drilling / Boring & Machining of openings on Drum Shell & Dished ends
- Making of Man Hole Openings on Dished ends and Machining of the same
- Installation of Drum internals (Drum Internals will be supplied by BHEL and drawing no. 0-04-116-U8051 may be referred for details of the same)
- Fabrication & Welding of attachments for fixing of Internals inside the drum
- Blast Cleaning as per SSPC-SP-10 and Painting as per drawings / painting schedule

- Hydro Testing of the Fabricated Equipment
 - Edge Preparation of Stubs & Nipples after Hydro test and Cutting of extra length
 - Hard Stamping and Letter painting for all Items in the prescribed / specified format
- c) Collection of free issue items from HPVP stores / shops, transportation to Vendor's works and Loading of finished equipments on to the trailer and welding of supports for transportation of the same to HPVP stores / shops / Logistics.
- d) Transportation of the equipment to HPVP Shops for SR and back to Vendor's Works after SR.
- e) Free issue items cleared by QC (Stores) to be collected within 3 days from the date of intimation without any failure. Any delay beyond the 3 days shall be considered for levying of L.D.
- f) Submission of economical Cutting plans for all the plate materials and sections issued by BHEL. Approval must be obtained from competent authority before taking up fabrication.

Wherever fabrication is done without proper approved cutting plans, any loss of materials arising due to the same will be recovered as per BHEL recovery rates.

- g) Cranes required for fabrication, unloading & loading at Vendor's works.
- h) Obtaining approval of drawings from Director of Boilers (DOB)
- i) Co-ordination with IBR officials for Stage wise & Final Inspection and obtaining inspection clearance.
- j) IBR Fees / Charges shall be borne by the vendor
- k) Generation of Inspection Reports, TPI / Customer Clearance & Preparation of Final Documents etc. along with **IBR certification.**
- l) Welding to be carried out by **IBR qualified welders** only.

Qualification of IBR welders shall be the sole responsibility of the bidder and shall be carried out at their cost at WRI, BHEL-Trichy or at any other competent authority approved by Central Boilers Board.

- m) Vendors shall have to engage sufficient man power for fabrication of the equipment to meet HPVP delivery schedules.
- n) Qualified Engineers & Supervisors shall be deployed for proper co-ordination of the job.
- o) Any modification work due to revision of drawings during fabrication is to be carried out by the vendor without any extra cost. Though not mentioned specifically, any activity which is required for completion of the work is deemed to be included in the scope of work of vendor.

3. BHEL SCOPE :

BHEL . HPVP shall provide the following as free issue :

- i) Drawings, BOMs, QAP & WPS etc.
- ii) Raw materials like Plates (full / off-cuts), Pipes & Tubes, Rods, etc. in running meters and BOCs like fasteners, gaskets etc. as per Drawings / GMS from HPVP stores.
- iii) Shell Plates in rolled condition.
- iv) Dished Ends in formed condition.
- v) Fabricated Drum Internals.
- vi) Paints as per requirement.
- vii) SR of the fabricated equipment.

4. INSPECTION :

Inspection shall be carried out by M/s. BHEL . Vizag / BHEL Authorized Inspection Agency / IBR / DOB (A.P.) as per approved QAP.

Contractor shall have to offer for Stage wise and Final inspection as per approved QAP and obtaining inspection clearance along with all necessary documentation.

5. DELIVERY :

Finished items along with inspection documents and all other certificates are to be handed over to HPVP Logistics as per the following schedule :

Within a maximum of **12 weeks** from the date of issue of First consignment of free issue materials or 4 weeks from the date of issue of Last consignment of materials whichever is later.

Note :

For intermediate operations like SR, the time period from the date of handing over to HPVP to the date of receipt after SR will be excluded from the delivery period for the purpose of computation of LD.

6. PRICE :

The price shall be quoted as per the Schedule of Rates enclosed at Annexure . I for the detailed scope of work of each item. The prices shall be fixed & firm without any escalation during the entire period of contract and till completion of the work.

The quoted price shall be inclusive of all applicable taxes & duties except GST and Income tax will be deducted at applicable rates from RA & Final bills. GST shall be reimbursable to the vendor as detailed in Clause . 7 and as per Annexure . GST.

7. GOODS & SERVICES TAX (GST) :

Bidders shall make a note of the following points of GST before submission of their offer :

- Vendors registered under GST Act shall have to mention their GSTIN no. (15 Digits) in their Technical Bid. If any specific exemption is available, a declaration with due supporting documents need to be furnished for considering the offer.
- Semi-finished goods are to be delivered by the Vendors in BHEL, HPVP premises within a maximum period of one year from the date of issue of the material, failing which the whole transaction will be considered as Supply and Sale and GST is required to be paid along with interest (calculated @ SBI Base Rate + 6%) along with penalty, if any, from the date of Challan on the whole value of materials. Hence vendors shall have to ensure that materials issued to them are returned within 365 days.
- After fabrication, the vendors shall have to deliver the Semi-finished Goods by fulfilling the following formalities :

GST invoice should be raised by the vendors by paying GST on job work charges at applicable rates and by incorporating the HPVP GSTIN no. in the invoice for availing the reimbursement of GST from HPVP.

The vendor shall also have to enter in their GST Return -1 (GSTR-1) the details of invoice raised for payment of GST so as to enable HPVP to avail input credit.

8. REVERSE AUCTION :

BHEL reserves the right to opt for Reverse Auction at its discretion instead of opening the price bids submitted in sealed envelope and any information regarding the reverse auction shall be decided after technical evaluation and shall be intimated to the bidders at appropriate time. The bidders are requested to give their acceptance for participation in RA. Non-acceptance to participate in RA may result in non-consideration of their bids in case BHEL decides to go for RA.

In case BHEL decides to go for RA, only those bidders who give their acceptance will be allowed to participate in RA and these bidders shall have to necessarily submit ~~Online Sealed Bid~~ in the RA. **Non-submission of 'Online Sealed Bid' by the bidder will be considered as tampering of the tendering process and will invite action by BHEL as per extent guidelines in vogue.**

9. Other Terms & Conditions shall be as per Annexure . III enclosed.

10. **RISK PURCHASE :**

In case the contractor fails to execute the work within the scheduled time or due to any other reasons, BHEL - HPVP reserves the right to get the same completed through some other party at the risk & cost of the contractor and any additional expenditure incurred due to the same shall be charged to the contractor.

11. **VALIDITY OF OFFER :**

The offer shall be valid for a period of **3 months** from the last date for tender submission.

12. **GENERAL :**

- The bidders shall study the Tender documents, Drawings, Quality Documents and all other relevant documents in detail for understanding the scope of work and the processes involved before submission of offers. One complete set of drawings shall be made available in the office of DGM (Outsourcing) and the same shall be referred during working hours. Drawings, QAP, WPS etc. shall be sent to vendor's e-mail address on their request.

For any clarifications required on this tender document, scope of work etc., the bidders shall depute their authorized representatives to BHEL, Visakhapatnam with prior intimation to get clarifications from concerned authorities between 09:00 AM and 04:00 PM.

- Bidders shall confirm their acceptance to all the terms & conditions of the tender enquiry. Any deviations to the tender terms & conditions are not acceptable and BHEL reserves the right to reject such offers without further correspondence
- BHEL reserves the right to modify or cancel the tender enquiry at any stage without assigning any reasons thereof.

13. The following documents shall form part of the tender enquiry :

- i) Schedule of Rates : Annexure . I
- ii) List of Applicable Drawings & Documents : Annexure . II
(Drawings, QAP, WPS etc. shall be sent by e-mail to vendor's e-mail address **on request**)
- iii) General Terms & Conditions : Annexure . III
- iv) Acceptance to tender terms & conditions : Annexure . IV
- v) Reverse Auction Rules & Regulations : Annexure . V
- vi) GST Compliance for Indigenous Suppliers : Annexure . GST
- vii) Sample drawings for reference purpose

14. **TENDER SUBMISSION :**

Techno-Commercial bids shall be submitted along with the **tender document duly signed & stamped by the bidder on all pages**. Techno-Commercial Bid and Price bid shall be placed in two separate envelopes and both shall be kept in another big envelope.

Tenders completed in all respects shall be **dropped / sent by post** to the following address before **14.00 hrs. on 30.09.2019** duly super scribing on the envelopes with the Subject, Tender Ref. No. and Technical / Price Bid etc.:

Outsourcing Tender Box,

Reception Counter,

ADM Building,

Heavy Plates & Vessels Plant

BHEL, Visakhapatnam – 530 012 (A.P.)

TENDERS RECEIVED AFTER THE DUE DATE & TIME ARE NOT ACCEPTABLE.

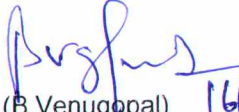
Note : Offers sent in any other form will be treated as invalid and will be summarily rejected.

15. OPENING OF TENDERS :

Techno-commercial Bids will be opened on **30.09.2019 at 14.00 Hrs.** at Customer Cell, Admn. Building, BHEL - HPVP, Visakhapatnam. The price bid of the techno-commercially qualified bidders will be opened in presence of representatives of the bidders and the date & time of opening of price bids will be intimated later. The bidders may depute their representatives at the time of opening.

In case of opting for Reverse Auction, intimation shall be given to the qualified bidders in advance at appropriate time.

for Bharat Heavy Electricals Limited,


(B. Venugopal) 16/9/19
Manager (Outsourcing)

Schedule of Rates

Ref : OS/19-20/7850/28/050

Date : 16.09.2019

Sub : Fabrication of Boiler Drum against S.O. 7850 at Vendor's works with free issue of raw materials.

Sl. No.	S.O. No.	Description of Work	Unit	Total Qty.	Rate per MT (in ₹)	Total Amount (in ₹)
1	7850	Complete Fabrication of Boiler Drum including installation of Drum Internals as per the Drawings, Specifications, QAP & WPS with free issue materials & BOCs and including Collection of FIMs from HPVP stores / shops, transportation to Vendor's Works, transportation of equipment from Vendor's Works to Shops for SR and back to Vendor's Works, Handing over of the finished equipments to HPVP Logistics dept. and loading of equipments onto the trailers & welding of supports for transportation, etc. complete in all respects as per the detailed scope of work mentioned in the tender document.	MT	15.3		
		Total		15.3		
Total Amount in Words :						

Notes :

- 1) L1 shall be evaluated on total quoted value.
- 2) The weights indicated above are approximate and may increase or decrease slightly subject to revision or addition or deletion of drawings. However, payment shall be made for the actual weight as per the applicable drawings / BOM.
- 3) The prices shall be fixed & firm without any escalation during the entire period of contract and till completion of the work.
- 4) The quoted price shall be inclusive of all applicable taxes & duties except GST and Income tax shall be deducted at applicable rates from the vendor's bills. GST shall be reimbursable to the vendor as detailed in Clause – 7 and as per annexure-GST.
- 5) Tenderer should quote the amount in figures & words. It may be noted that corrections, overwriting etc. are not allowed. If there is a discrepancy between amount in figures & words, the amount in words shall prevail unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail. If there is an error in the total corresponding to the addition or subtraction of sub-totals, the sub-totals shall prevail and total shall be corrected accordingly.

In case of mismatch between rate and amount in figures, rate in figures shall be taken into consideration for further evaluation and processing.
- 6) Bid should be free from correction, overwriting, using corrective fluid etc. Any interlineation, cutting, erasure or overwriting shall be valid only if they are attested under full signature(s) of person(s) signing the bid else bid shall be liable for rejection.

All overwriting / cutting etc. will be numbered by bid opening officials and announced during bid opening.
- 7) BHEL reserves the right to go for Reverse auction as per the applicable guidelines instead of opening price bids.

Signature of the Bidder with stamp

LIST OF APPLICABLE DRAWINGS & DOCUMENTS

Sl. No.	S.O. No.	Description OF Item	Drawing / Doc. Ref. No.	Rev. No.
1	7850	BOILER DRUM (UNDRILLED)	1-04-116-U8044	01
2		BOILER DRUM WITH STUBS & DRILLING DETAILS	0-04-116-U8048	01
3		DRUM INTERNALS	0-04-116-U8051	-
4		DISHED END FOR MACHINING	3-04-116-U8330	01
5		DRUM INTERNALS	0-04-116-U8051	-
6		MANHOLE DOOR ASSLY.	1-04-116-U8045	00
7		MANHOLE DOOR PARTS DETAILS	2-04-116-U8140	00
8		SADDLE SUPPORT	1-04-116-U8039	00
9		FEED PIPE - DIA 127 x 12.5; L = 995	4-04-116-U8321	00
10		SAFETY VALVE NIPPLE - I	2-04-116-U8117	00
11		SAFETY VALVE NIPPLE - II	2-04-116-U8118	00
12		DC NOZZLE D 273	3-04-116-U8284	00
13		SLEEVED NIPPLE D 31.8	3-04-116-U8285	00
14		FEED NOZZLE D 141.3	3-04-116-U8286	00
15		NIPPLE D 88.9 (RISER)	3-04-116-U8287	00
16		NIPPLE D 73 (RISER)	3-04-116-U8288	00
17		SLEEVED NIPPLE D 33.4	3-04-116-U8289	00
18		SLEEVED NIPPLE D 48.3	3-04-116-U8290	00
19		NIPPLE D 33.4	3-04-116-U8291	00
20		NIPPLE D 48.3	3-04-116-U8292	00
21		NIPPLE D 33.4	3-04-116-U8343	00
22		NIPPLE D 168.3 (SAT LINK)	4-04-116-U8276	00
23		NIPPLE - DIA 127 (RISER)	4-04-116-U8322	00
24		NIPPLE - DIA 127 x 20; L = 115	4-04-116-U8322	00
25		METAL TEMPERATURE PAD - 16 x 30 x 30	4-04-116-U8186	00
26		RING - PLATE - 6 x 50 x 5027	4-04-116-U8277	00
27		CHILL BAR - I (PLATE - 8 THK x DIA 350)	4-04-116-U8278	00
28		CHILL BAR - II (PLATE - 8 THK x DIA 230)	4-04-116-U8279	00
29		CHILL BAR - II (PLATE - 8 THK x DIA 207)	4-04-116-U8284	00
30		CURVED PLATE - 10 x 400 x 400	4-04-116-U8280	00
31		CURVED PLATE - 10 x 300 x 400	4-04-116-U8281	00
32		BLANK FLANGE - ROD DIA 250; L = 38	4-04-116-U8282	00
33		BLANK FLANGE - ROD DIA 300; L = 42	4-04-116-U8283	00
34		INSULATION STOP BAND - PLATE 6 x 127 x 2212	4-04-116-U8320	00
35		SPIRAL WOUND GASKET - OD 610 x ID 558 x 4.4 THK	4-03-000-U6009	00
36		STD. QUALITY PLAN (Sheet 01 to 05 of 05)	SQP:H:PP:28	00
37		WELDING PROCEDURE SPECIFICATION		-
38		PAINTING SCHEDULE (Sheet 1 & 8 of 8)	PS/HPVP S.O. 7850	-

Note : The drawings & documents mentioned above are tentative only and the job is to be executed as per the Engg. drawings & documents issued at the time of execution.

GENERAL TERMS & CONDITIONS**1. TECHNICAL DELIVERY CONDITIONS :**

The work should conform to the technical data given in our drawings, GMS, Shipping List Specifications, QAP, WPS etc.

2. PARTY'S SCOPE :

The scope of the party shall be as follows: -

- a) All welding equipments, baking oven, tools, jigs and fixtures, measuring instruments duly calibrated, handling facilities, testing facilities etc.
- b) All materials other than those mentioned under "Free Issue Materials", which are required for completion of the work.
- c) All consumables such as electrodes, gases, grinding wheels etc.

Note : Electrodes of specification mentioned in the drawings / WPS and of BHEL approved brands only shall be used.

3. REVISION OF DRAWINGS :

There may be minor changes in the drawings during execution. In such a case, party should accommodate the same without any extra claim.

4. WELDING QUALIFICATION : Qualification of required number of Welders is party's responsibility at their cost.**5. X-RAY :**

All welding shall be of X-ray quality where specified on drawings. Inspection would specify the quantum of X-ray based on drawings / code requirement. Party should strictly follow the WPS and QAP supplied by BHEL during welding. Getting the welds radiographed and getting them cleared by inspection is the responsibility of the party.

6. RECTIFICATIONS / REJECTIONS :

Any rectification due to defective work, if required, shall be done by the party free of charge with a suitable technology approved before hand by BHEL in writing. The cost of material, if any used for rectification work / rejection work, will be estimated by BHEL and the same shall be debited to party's account. In case any rectification / rework is to be carried out due to defective material supplied by BHEL, the replacement material and consumables will be supplied by BHEL free of Cost.

7. SECURITY DEPOSIT :

Vendors shall have to submit a Bank Guarantee for **10%** of the order value in case of **HPVP ADM site** or **25%** of the material cost in case of Vendor works towards Security Deposit and safe custody of materials within one week from the date of issue of Order. The BG shall be valid for the contract period with a claim period of 3 months. This Bank Guarantee shall be released to the contractor after completion of work and on acceptance of the same by BHEL / Owner and on submission of Performance BG for 10 % of the order value covering for the defects liability period. If PBG is not submitted, 10% of the order value shall be deducted towards PBG from final bill.

8. RAW MATERIALS ISSUE :

Raw materials shall be issued with appropriate processing allowance and invisible wastage over the theoretical requirement of raw materials (**Plates, Sheets, Sections and Pipes**).

9. TRANSFER / RETURN OF LEFT OVER MATERIALS :

Party should maintain proper records for receipt & use of all free issue materials. The left over materials & scrap as per the material accounting statement shall be returned to HPVP stores along with finished job. Material Transfer Vouchers (MTV) from one order to another or from one vendor to another and Material Return Vouchers should be submitted immediately after transfer / return. The material reconciliation statement shall be submitted by the contractor after verification and certification by BHEL along with the final bill **within 30 days from the date of completion of work**. Otherwise, recovery for the balance materials shall be made from any of their pending bills without further intimation.

10. MATERIAL RECONCILIATION :

Orders issued to the vendors have to be completed in all respects including Material Accounting within a maximum of **180 days** from the **date of issue of the first material** from BHEL - HPVP stores. This is a statutory requirement under Central Excise Rules and must be strictly complied with.

Maximum of 0.5 % on the requirement of materials (**Plates, Sections and Pipes**) is admitted towards **process allowance and invisible wastage**.

Scrap quantity is permissible up to a **maximum of 1% on Structural (Beams, Channels, Angles, Rods, Pipes etc.), 2% on Sheets, 3% for Plates** on the theoretical requirement of materials.

If wastage and scrap is beyond the above limits, it should be fully justified with cutting diagrams etc. which are to be approved in advance by BHEL. **Otherwise, the cost of raw materials beyond approved limits will be recovered from the contractor as per BHEL recovery rates including applicable taxes & duties.**

Material reconciliation including return of balance materials, off-cuts is to be completed within 20 days from the date of completion of the order. The material reconciliation statement shall be submitted by the contractor after verification and certification by BHEL-HPVP along with the final bill **within 30 days from the date of completion of work**. Otherwise, recovery for the balance materials shall be made from any of their pending bills without further intimation,

Repeated occurrence of inordinate delays in returning and settling the material accounting will entail BHEL the right to terminate the contract forthwith or impose a temporary suspension on further loading at the discretion of BHEL.

11. SCRAP & OFFCUT NORMS :

SI. No.	Description	Scrap Size (in mm)	Off-Cut (in MM)
1.	CS/AS Sheets & Plates	Below 500 × 250	500 × 250 & above
2.	Rolled sections Rod, angles etc. (other than -tubes, pipes)	Below 1000	1000 & above
3.	Tubes & Pipes	Below 500	500 & above
4.	Universal column	Below 1000	1000 & Above
5.	SS Sheets & Plates	Below 500 × 250	500 × 250 & above
6.	SS Structural, Rods, Tubes, Pipes	Below 250	250 & above
7.	Non – ferrous: sheets & plates, rods & tubes	Below 500 × 250 (S & PL), Below 250 (Rods & Tubes)	500 × 250 & above, 250 & above
8.	Big size Scrap	(2500 & above) × (150 to 249)	-

12. INSPECTION :

Party shall contact our Quality Control Dept. for stages of inspection before commencement of job and should strictly follow the stages of inspection as per QAP.

13. WORKMANSHIP GUARANTEE :

The vendors should give workmanship guarantee for fabricated items for a period of 18 months from the date of last delivery of the order. Any defects due to incomplete work, faulty workmanship found in the fabricated items after delivery during the defects liability period shall be rectified / replaced by the vendor free of cost. Otherwise, the expenditure incurred towards the same will be recovered from the pending bills of vendors.

14. WORK PROGRESS :

The fabricator shall furnish a weekly report on the progress of work along with the status of availability of free issue materials and requirement of further materials, if any.

Outsourcing dept. personnel will visit vendor's works from time to time to assess and review the work progress. Free access shall be provided to BHEL or its inspection agency at all reasonable times of the day / night.

In case the progress is not satisfactory or supplies are delayed abnormally beyond the contractual delivery date, BHEL-HPVP, Visakhapatnam reserves the right to cancel the order in part or full or get the balance job in as is where is condition completed elsewhere by another agency at the risk and cost of Fabricator. The value of the work carried out by the party will be assessed by BHEL and the same shall be final. No compensation will be given to the fabricator in case of cancellation of order or diversion of balance job even if the jobs have been processed partly.

15. DELIVERY :

Finished items should be handed over to the Logistics dept. on party's delivery challans along with Job completion certificate / Final Inspection Report from inspection agency / HPVP-QC department.

16. PENALTY :

If delivery exceeds the stipulated delivery schedule, penalty 1/2 % of the total value of order per week or part there of subject to a maximum of 10% on the total value of the order will be levied. However, time taken for the following will not be considered as delay on the part of the Sub-Contractor.

- 1) Intermediate operations, if any, carried out by BHEL.
- 2) Waiting time for BHEL / Third party Inspection beyond a normal time of 3 days.

17. PAYMENT TERMS :

100% payment will be made against delivery of the finished items duly inspected & cleared by Inspection authority along with all inspection documents to Logistics Dept. Payment shall be made within **45 days** from the date of submission of RA Bill.

Only one bill will be admitted for orders with value less than Rs. 5 lakhs and a maximum of two bills are allowed for orders of value more than Rs. 5 lakhs. In such cases, the first bill value shall be restricted to a maximum of 50 % of the order value and a minimum of 50% of the total DUs of the order.

Vendors shall have to submit the bills in the formats specified by HPVP-Outsourcing and the bills submitted in the specified format along with necessary supporting documents are only admitted for processing. The following documents shall be submitted along with the Final Bill: -

1. No Claim Certificate from the contractor
2. No Dues Certificate from BHEL
3. Work Completion Certificate from BHEL
4. Material Reconciliation Statement submitted by the Contractor and certified by concerned authority of BHEL (if applicable)
5. Workmanship Guarantee certificate from the contractor

18. SECRECY :

All the documents of BHEL inclusive of Drawings, GMS and Standards made available to the fabricator should be kept in strict confidence and under no circumstance be made available to others or allow others to make use of them. Such documents shall be returned to BHEL on demand after completion of the job. This secrecy clause is binding on the employees of the fabricators also. Violation of the same may lead to suspension of business with the vendor and necessary legal action.

19. SUB-LETTING :

In general, sub-letting of jobs will not be permitted. But in special circumstances, this may be allowed. In such case, the party should obtain written approval from BHEL-HPVP, Visakhapatnam before sub-letting.

20. FACTORY RULES AND REGULATIONS :

Party shall abide by all the rules and statutory regulations in force from time to time as per factories act. It shall be party's responsibility to ensure the safety of their workmen and fulfilling the ESI, PF and other relevant statutory regulations.

21. SAFETY :

- a) Contractor shall adhere to safe construction practices, guard against hazardous & unsafe working conditions and shall comply with the safety rules of BHEL and local authorities. He shall maintain First Aid facilities for all his employees and labour. Contractor's responsibility includes supply of welder kit, all safety items such as safety belts, white and colour glasses, goggles, safety helmets, safety shoes etc.
- b) *Contractor and his employees shall follow all fire & safety, security regulations of BHEL.*

22. HOUSE KEEPING :

During execution of work, the contractor at all times keep the working place and storage area clean and free from accumulation of waste materials, rubbish etc.,

23. ACCIDENT / DAMAGE / CONDUCT ETC. :

Contractor will be held responsible for any disorderly conduct / misconduct, indiscipline, theft, smoking etc., on the part of his men. He will ensure summary eviction of such men from his premises failing which BHEL would remove them from the factory on his responsibility. Any damage to and or loss of equipment, machinery, building etc., to BHEL or BHEL employees, visitors or other contractors resulting from his own or any of his men's negligence shall be liable to be made good by him. Contractor shall be solely responsible for any accident in which you or your men or your equipment may be involved during the execution of contract on account of any reason what so ever.

24. TERMINATION OF CONTRACT :

In the event of any failure on the part of the contractor, BHEL reserves the right to terminate the contract by giving a notice of 2 weeks for any of the following lapses and contractual violations: -

- a) Failure to make labour payments in time as per the rules
- b) Failure to progress the job according to the agreed schedule
- c) Failure to mobilize adequate man power, tools & tackles and consumables in time
- d) Failure to adhere to Quality Standards of BHEL
- e) Refused to co-operate with other agencies working in the same area
- f) Failure to resolve labour disputes like strikes etc., within 7 days of occurrence
- g) Failure to comply with statutory regulations applicable at BHEL

BHEL shall also be free to intervene and take necessary remedial measures. All costs incurred with interest and overheads shall be recovered from contractor by such foreclosing or off-loading any part of the contract work.

25. DISPUTES :

Head of BHEL- HPVP Unit will be the final authority for any disputes arising out of this contract. The disputes / arbitration / settlement of contractual or legal issues shall be under the Jurisdiction of Visakhapatnam Court.

- 26.** For this procurement, Public Procurement (Preference to Make in India), Order 2017 dated 15.06.2017 & 28.05.2018 and subsequent Orders issued by the respective Nodal Ministry shall be applicable even if issued after issue of this NIT but before finalization of Contract / PO / WO against this NIT.

In the event of any Nodal Ministry prescribing higher or lower percentage of purchase preference and / or local content in respect of this procurement, same shall be applicable.

Signature of Bidder with Stamp

Acceptance to Tender Terms & Conditions

I / We hereby confirm that the Tender documents, Drawings, Quality documents etc. have been studied in detail and we have fully understood the scope of work.

I / We accept to all the Terms and Conditions of the Tender Enquiry and the prices quoted are in accordance with the same.

I / We give our acceptance to participate in reverse auction in case BHEL decides to opt for reverse auction for this tender.

Tender documents duly signed on all the pages by the Owner / authorized representative of the bidder are attached herewith.

Signature of the Bidder with Stamp

GENERAL TERMS AND CONDITIONS OF RA (REVERSE AUCTION)

BHEL reserves the right to go for Reverse Auction (RA) (Guidelines as available on www.bhel.com) instead of opening the sealed envelope price bid, submitted by the bidder. This will be decided after techno-commercial evaluation. Bidders have to give their acceptance with the offer for participation in RA. Non-acceptance to participate in RA may result in non-consideration of their bids, in case BHEL decides to go for RA.

Those bidders who have given their acceptance to participate in Reverse Auction will have to necessarily submit ~~Process~~ compliance form (to the designated service provider) as well as ~~Online~~ sealed bid in the Reverse Auction. Non-submission of ~~Process~~ compliance form or ~~Online~~ sealed bid by the agreed bidder(s) will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines for suspension of the business dealings with suppliers/ contractors (as available on www.bhel.com).

The bidders have to necessarily submit online sealed bid less than or equal to their envelope sealed price bid already submitted to BHEL along with the offer. **The envelope sealed price bid of successful L1 bidder in RA, if conducted, shall also be opened after RA and the order will be placed on lower of the two bids (RA closing price & envelope sealed price) thus obtained. The bidder having submitted this offer specifically agrees to this condition and undertakes to execute the contract on thus awarded rates.**

If it is found that L1 bidder has quoted higher in online sealed bid in comparison to envelope sealed bid for any item(s), the bidder will be issued a warning letter to this effect. However, if the same bidder again defaults on this count in any subsequent tender in the unit, it will be considered as fraud and will invite action by BHEL as per extant guidelines for suspension of business dealings with suppliers / contractors (as available on www.bhel.com).

As a reminder to the bidders, system will flash following message (**in RED Colour**) during the course of ~~online~~ sealed bid

~~Bidders~~ to submit online sealed bid less than or equal to their envelope sealed bid already submitted to BHEL+

Signature of the Bidder with Stamp

GST COMPLIANCE FOR INDIGENOUS SUPPLIERS

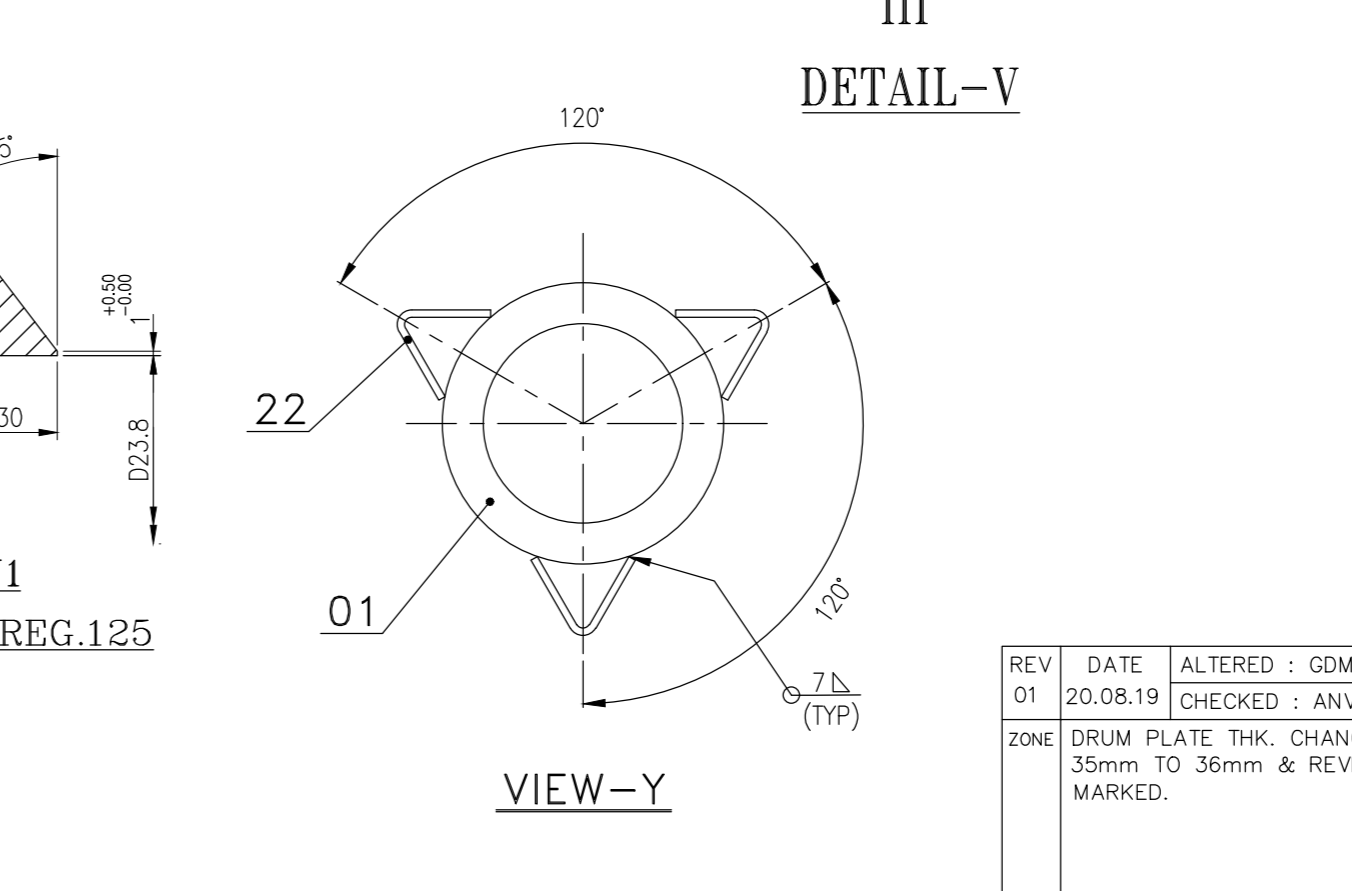
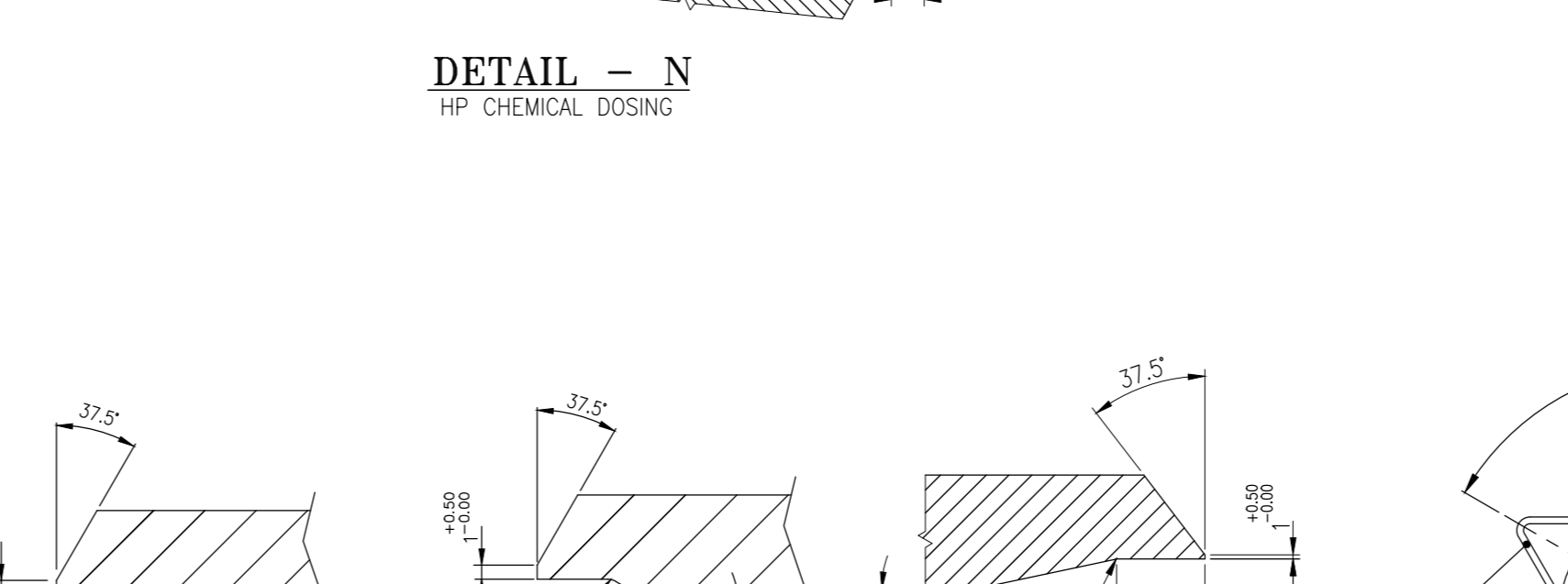
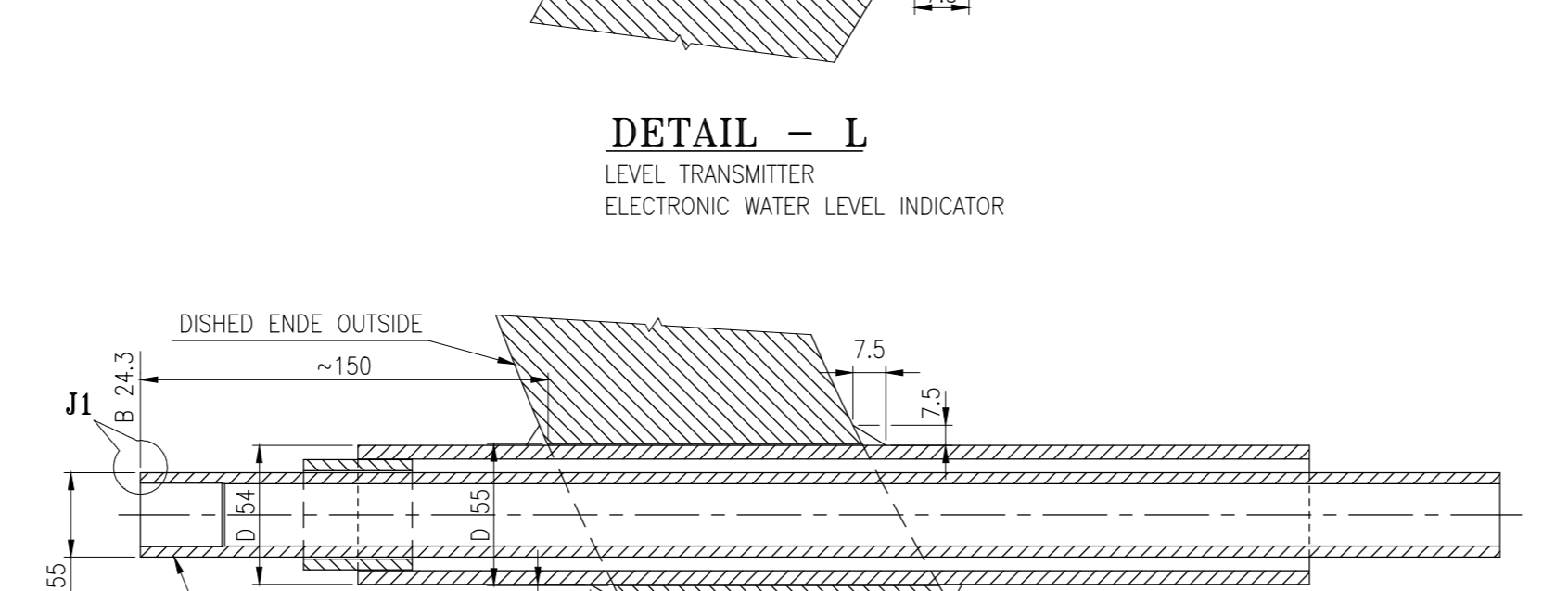
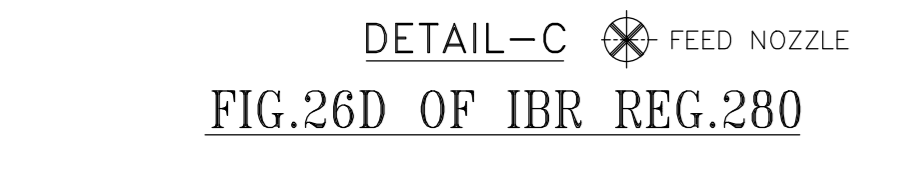
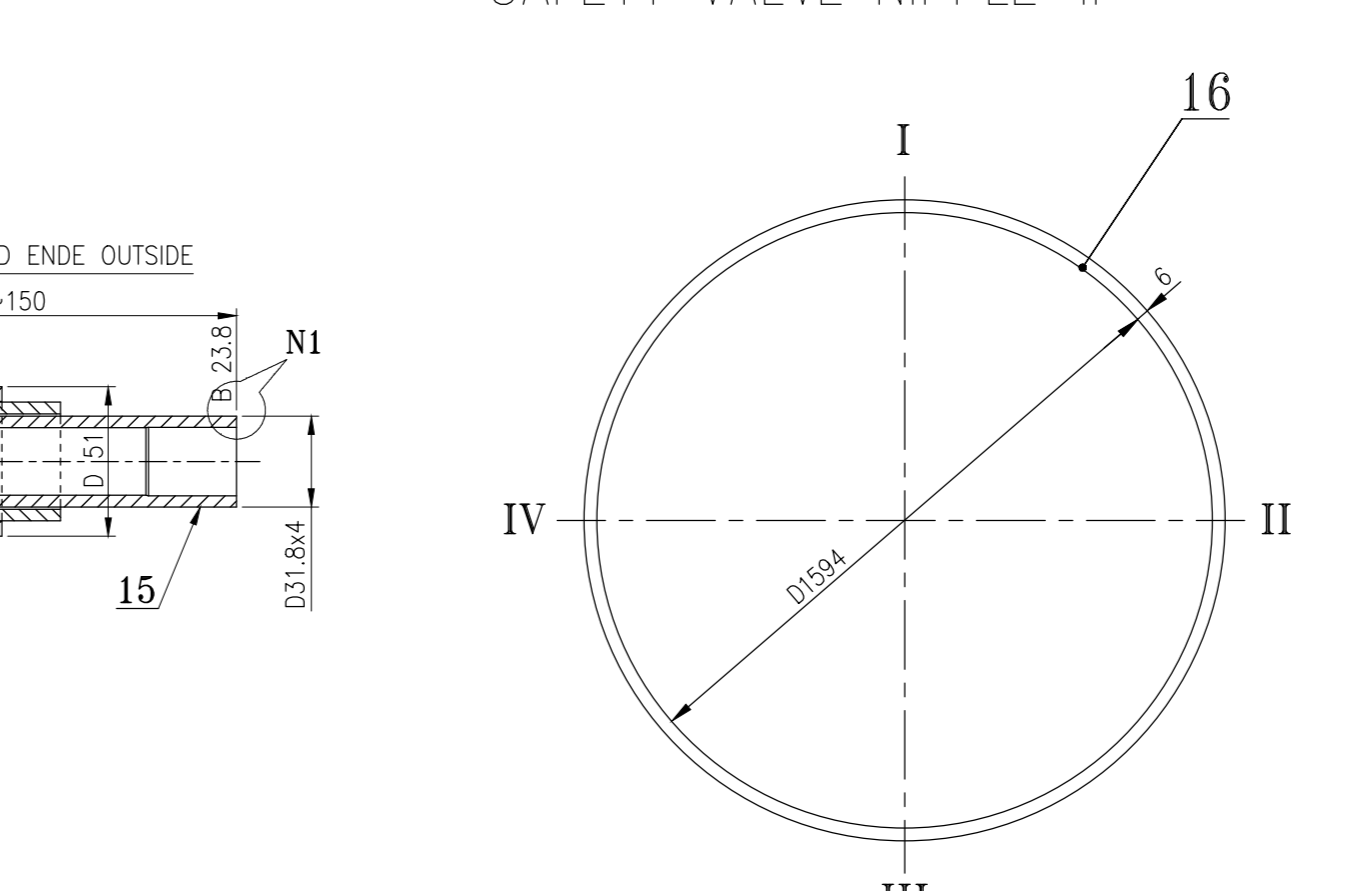
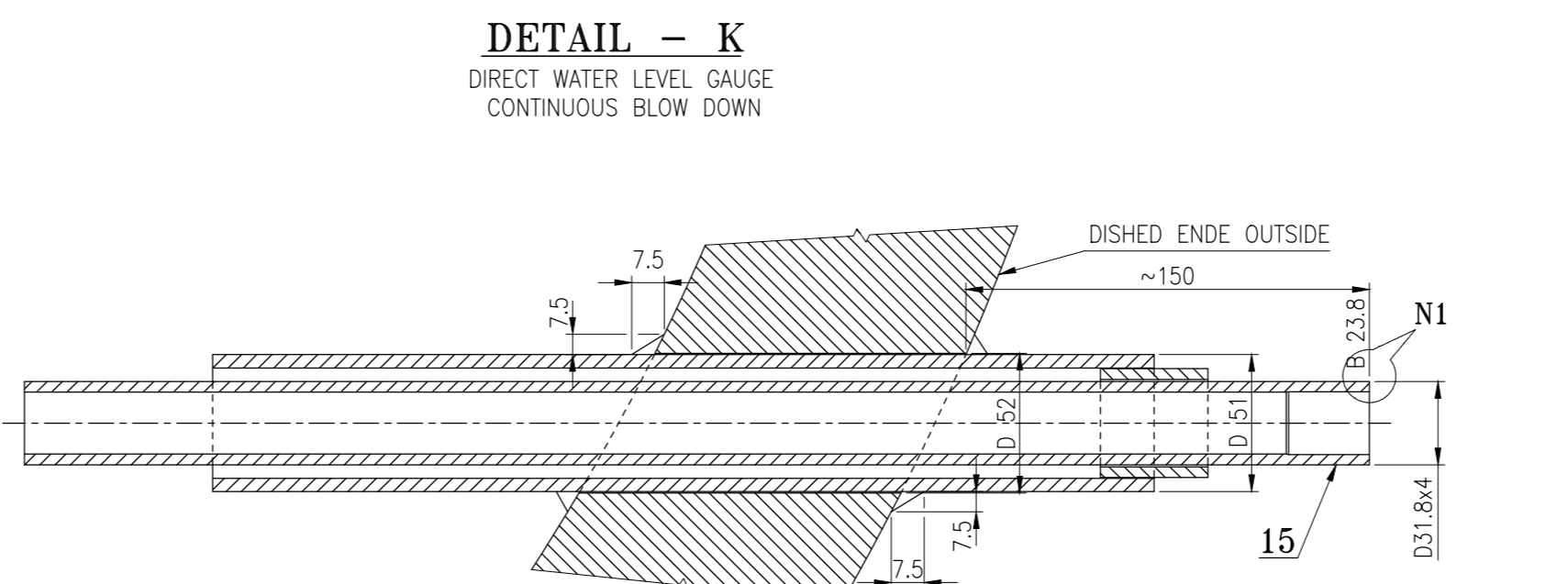
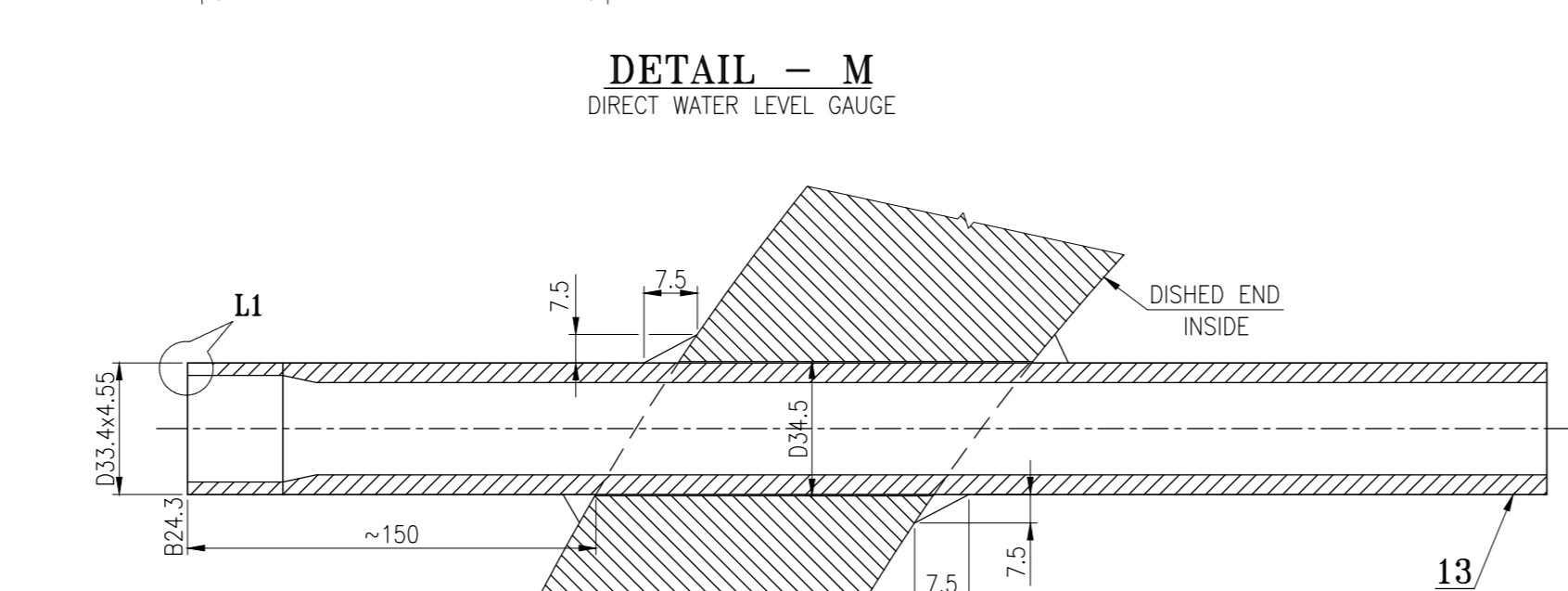
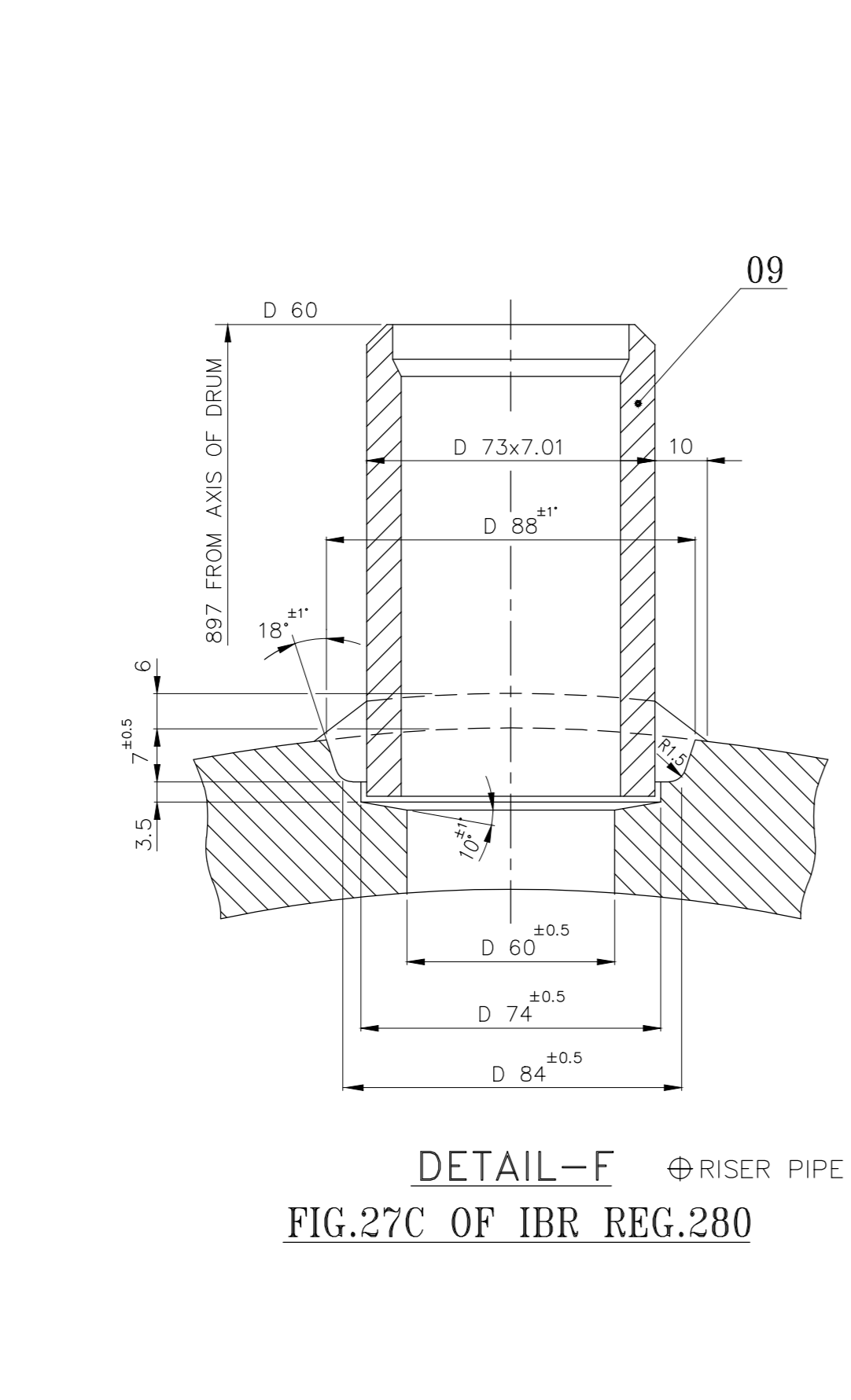
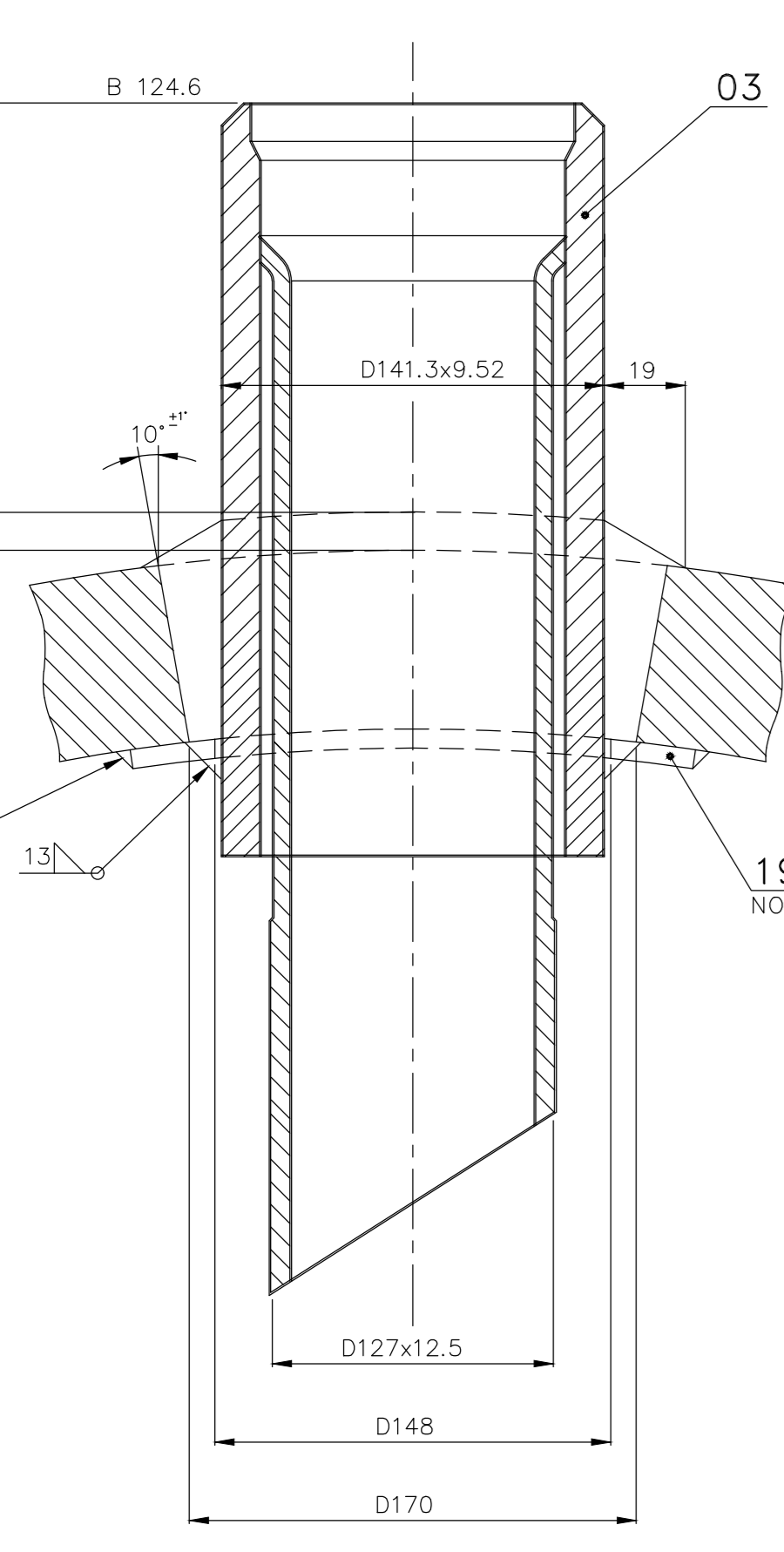
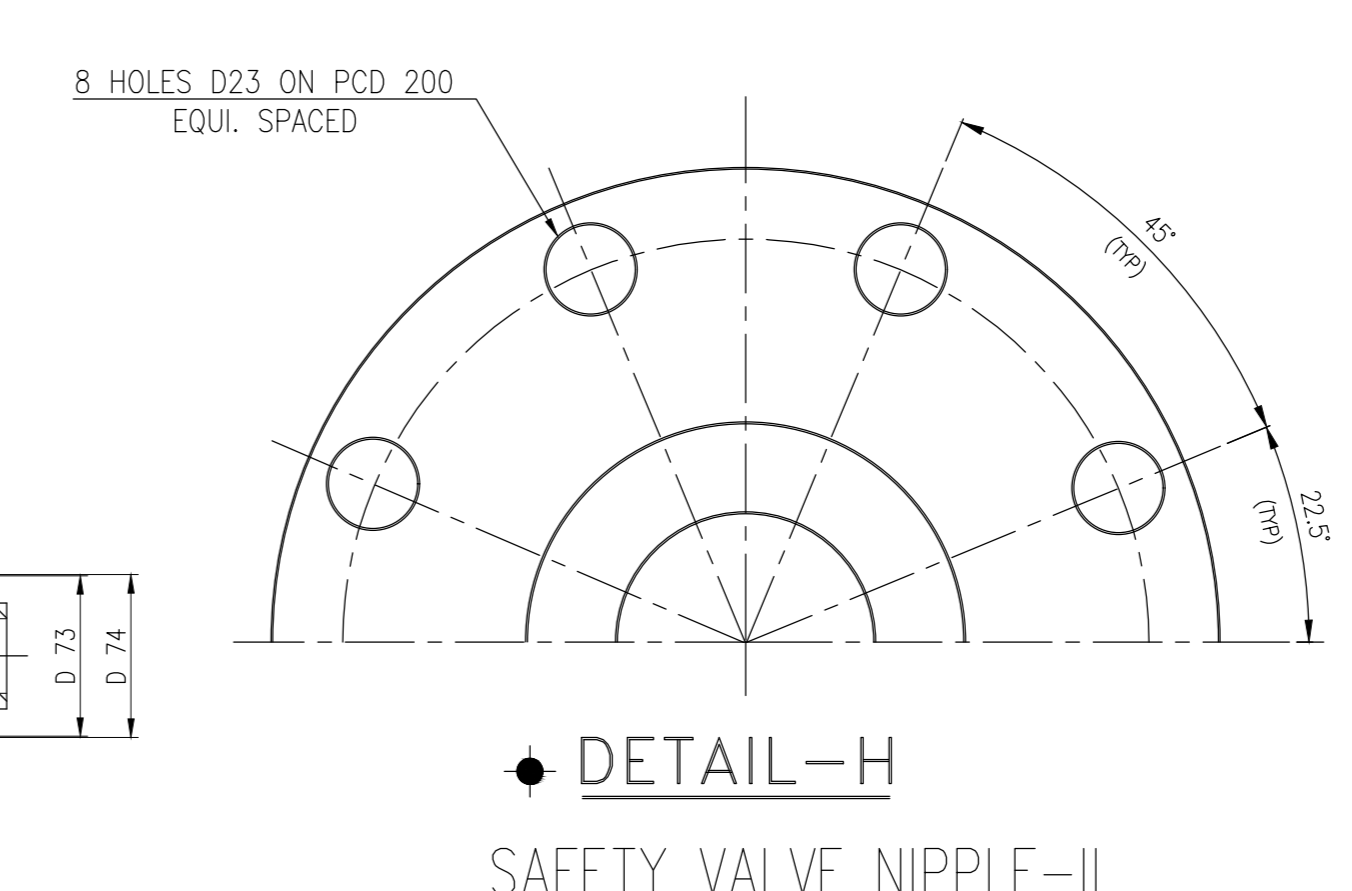
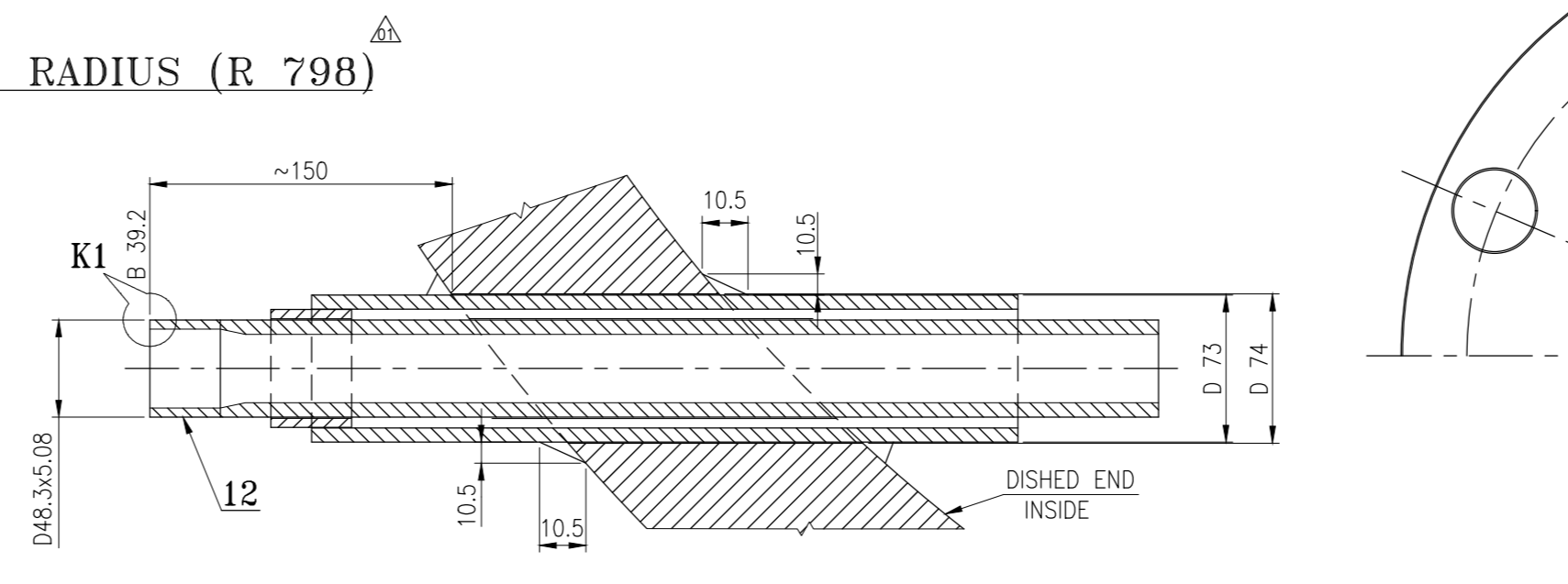
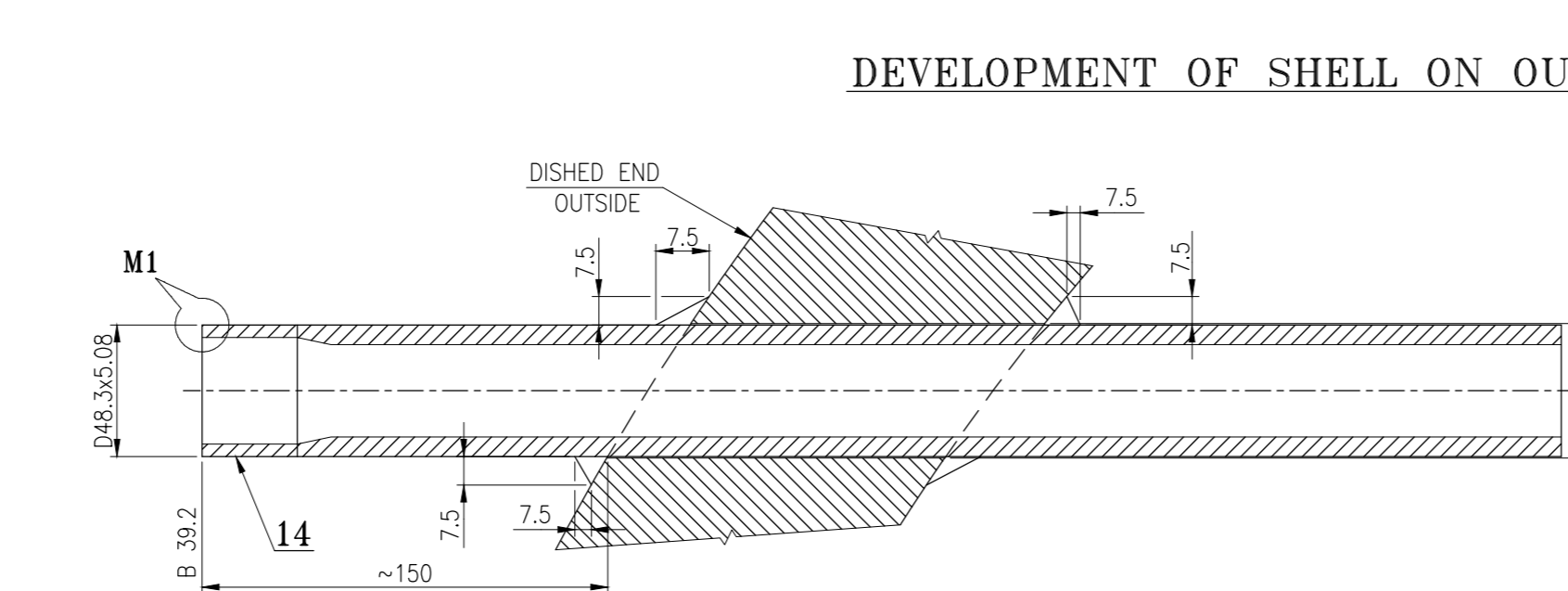
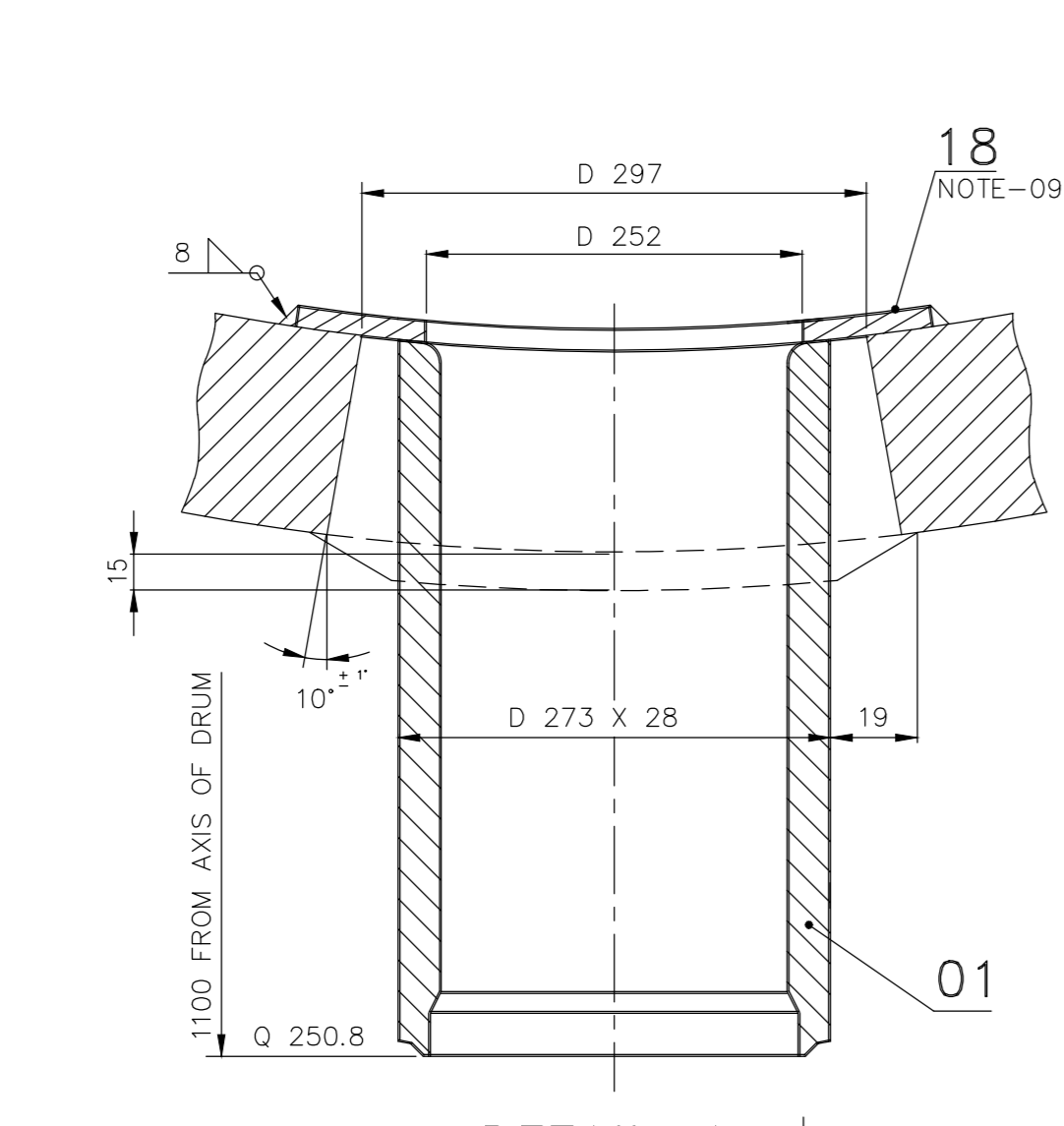
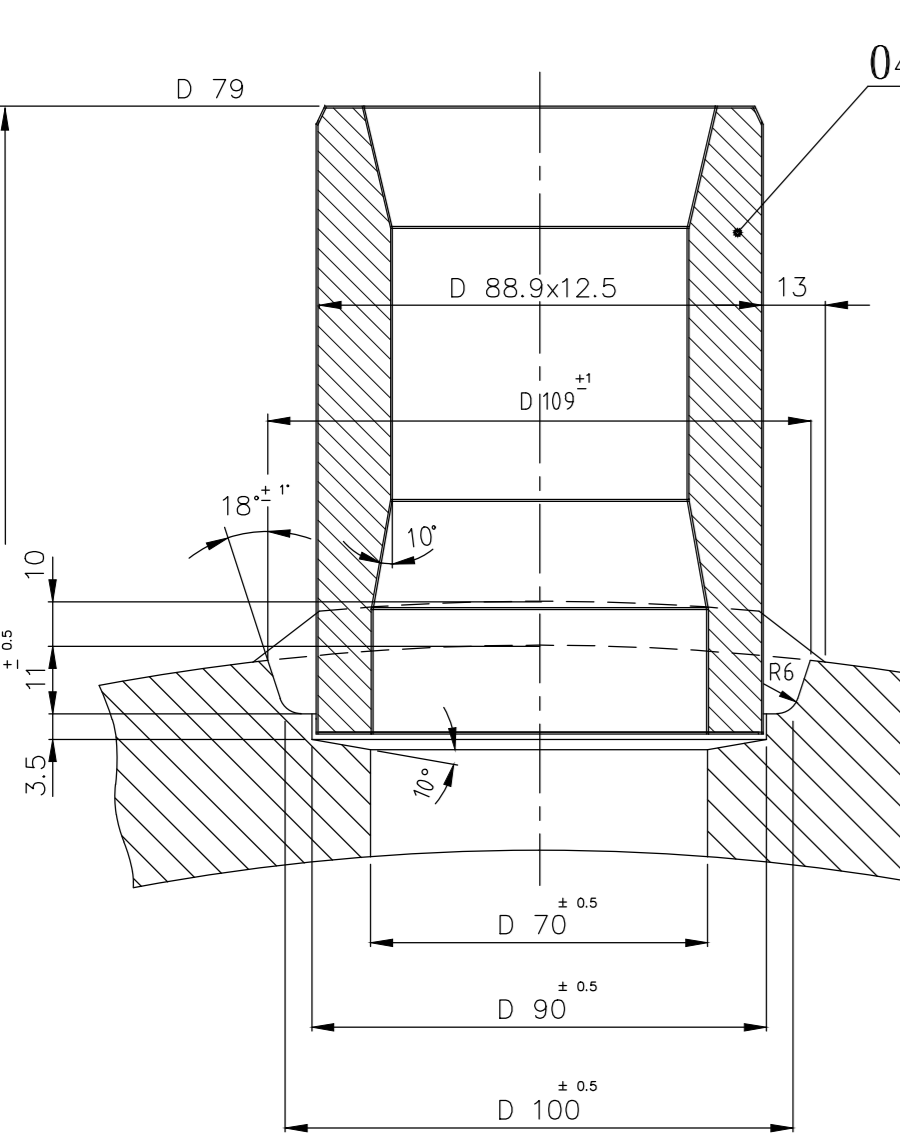
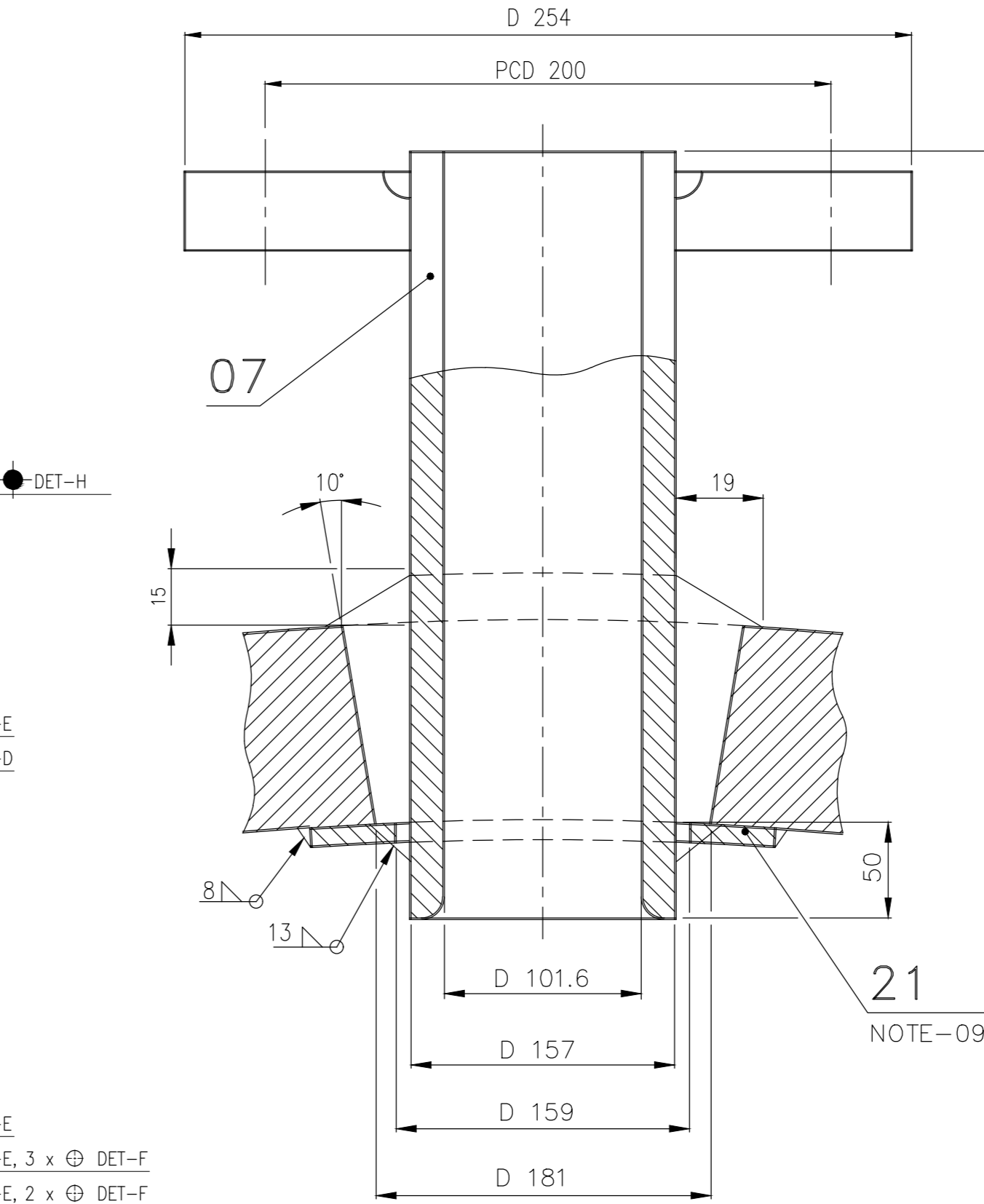
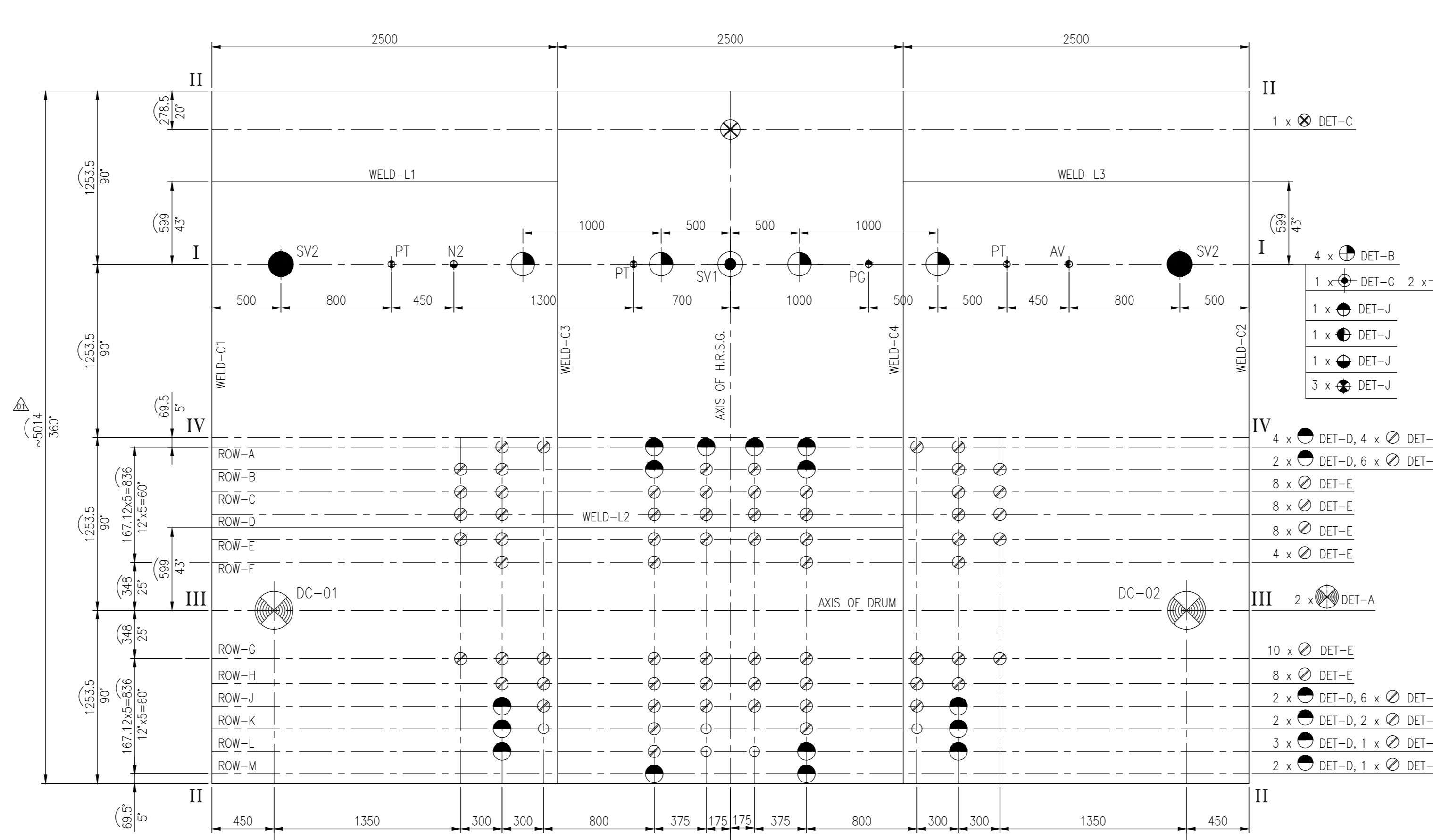
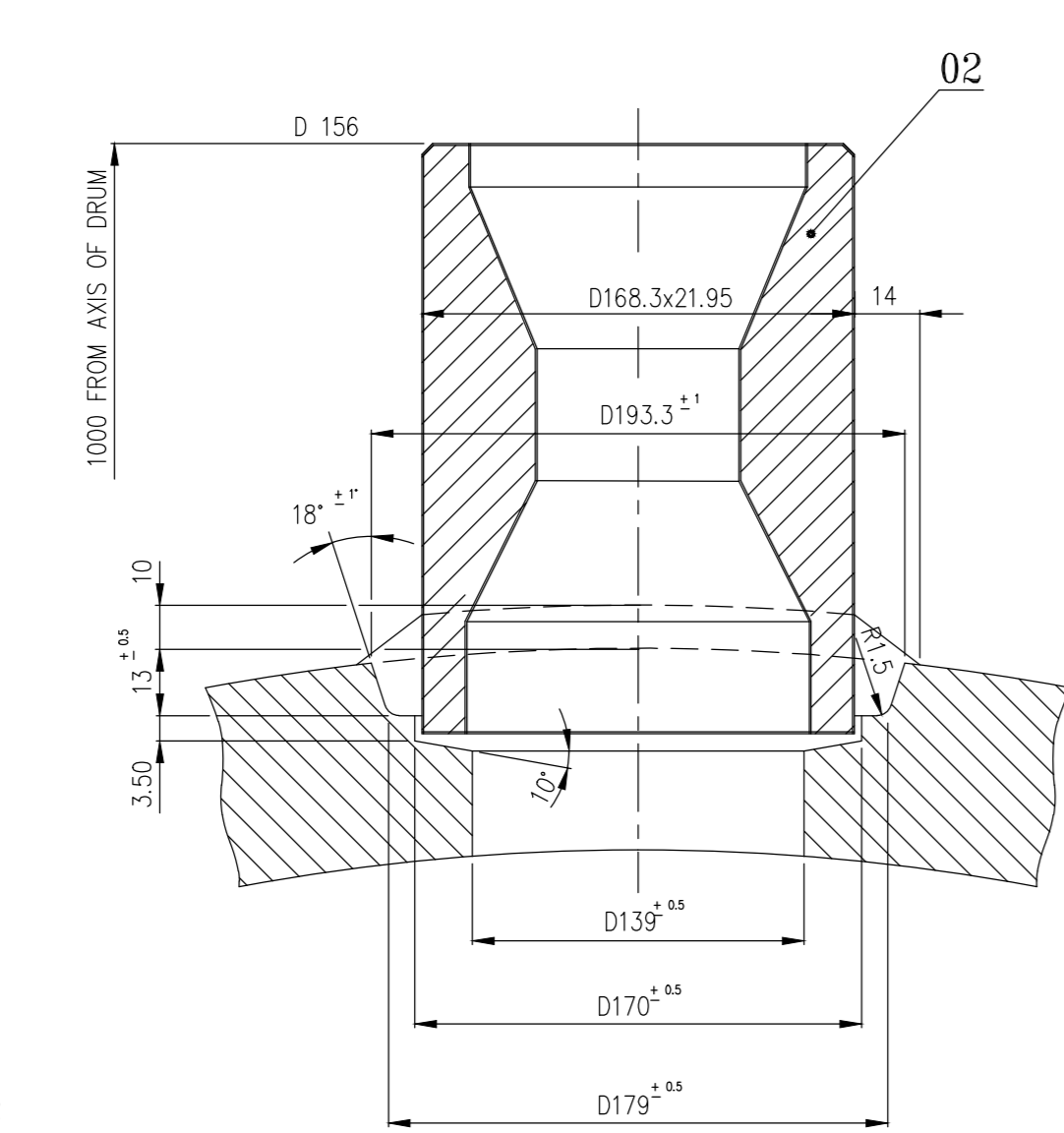
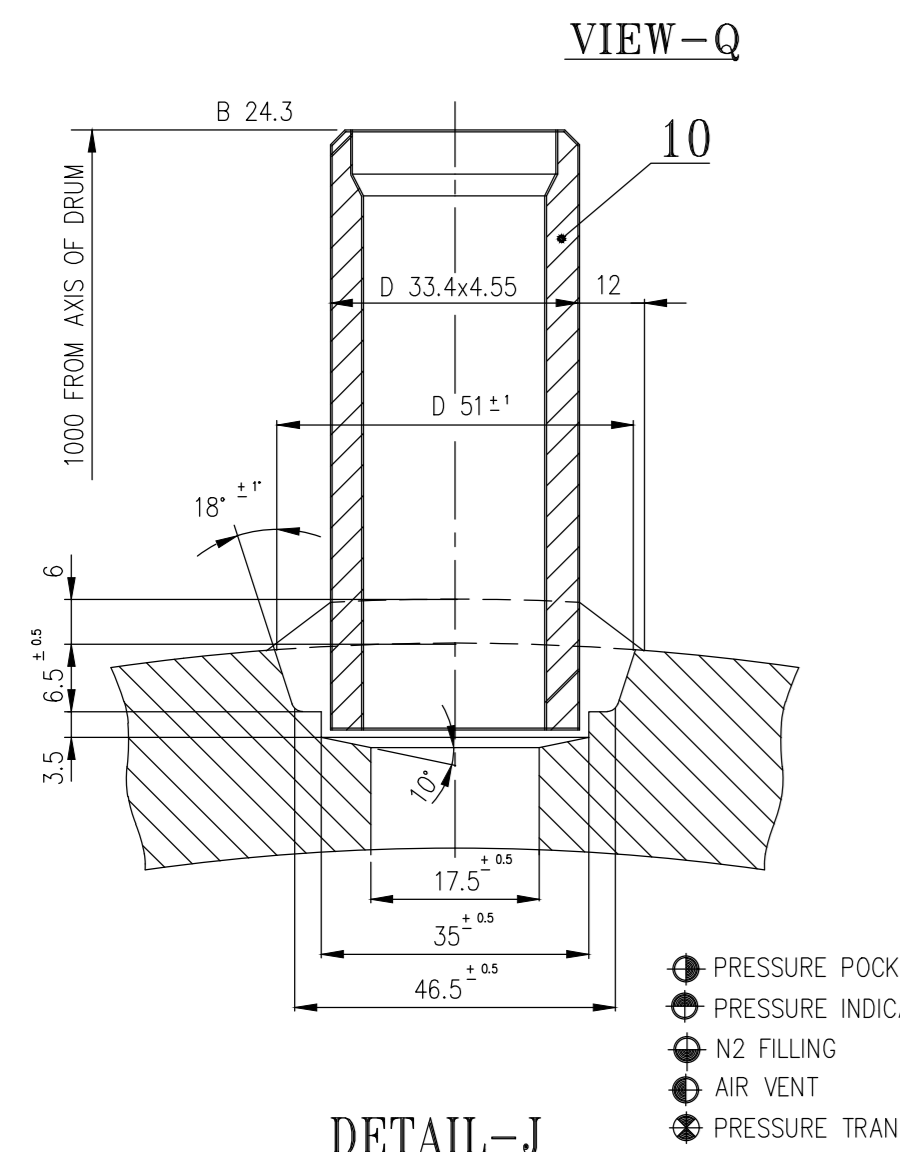
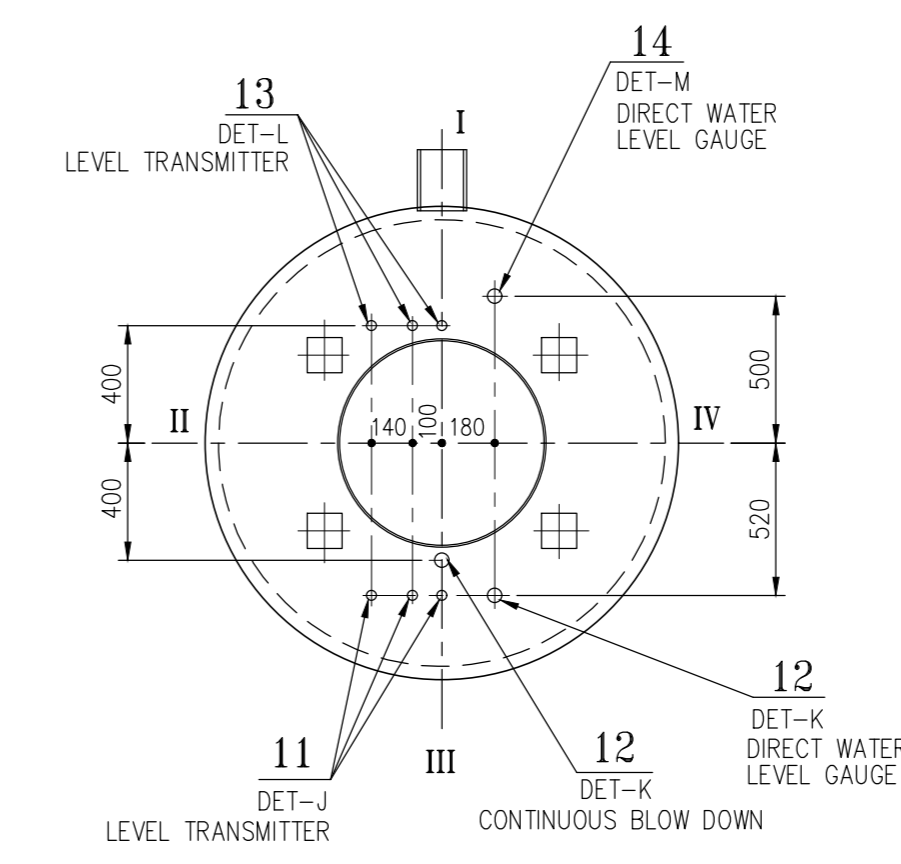
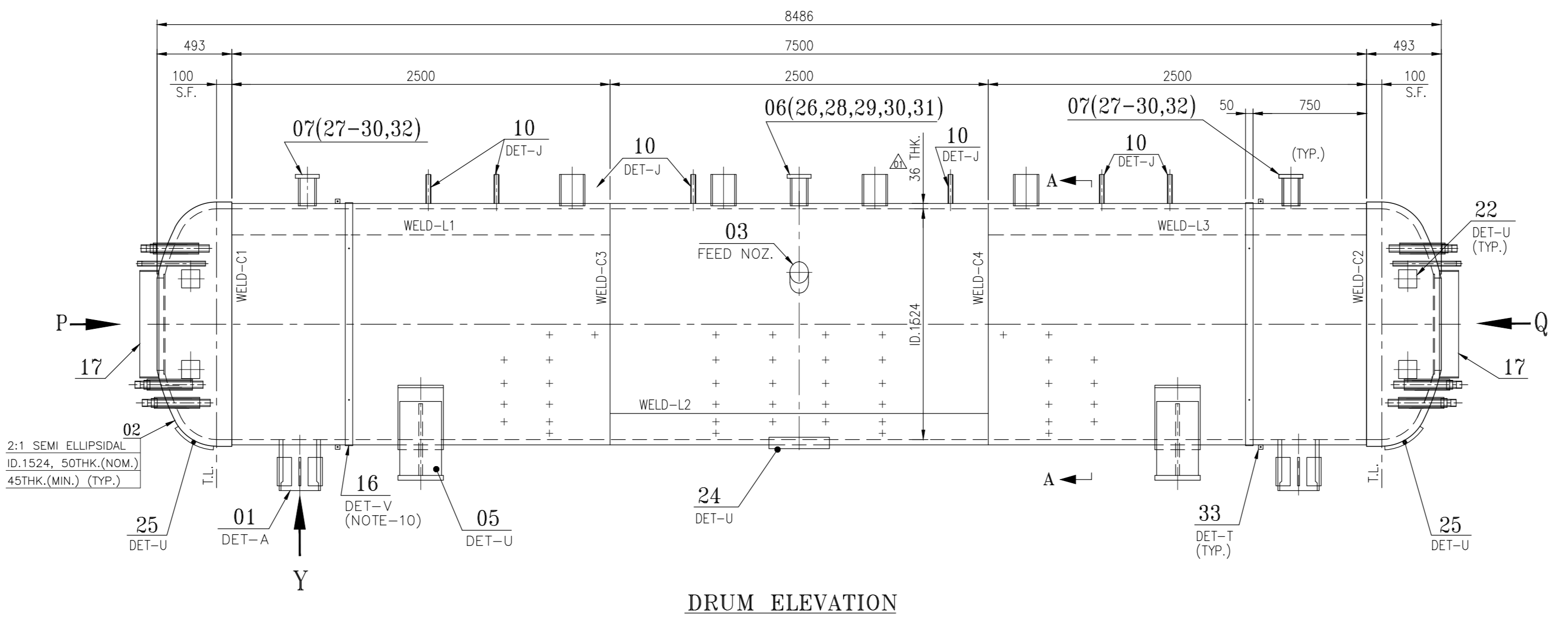
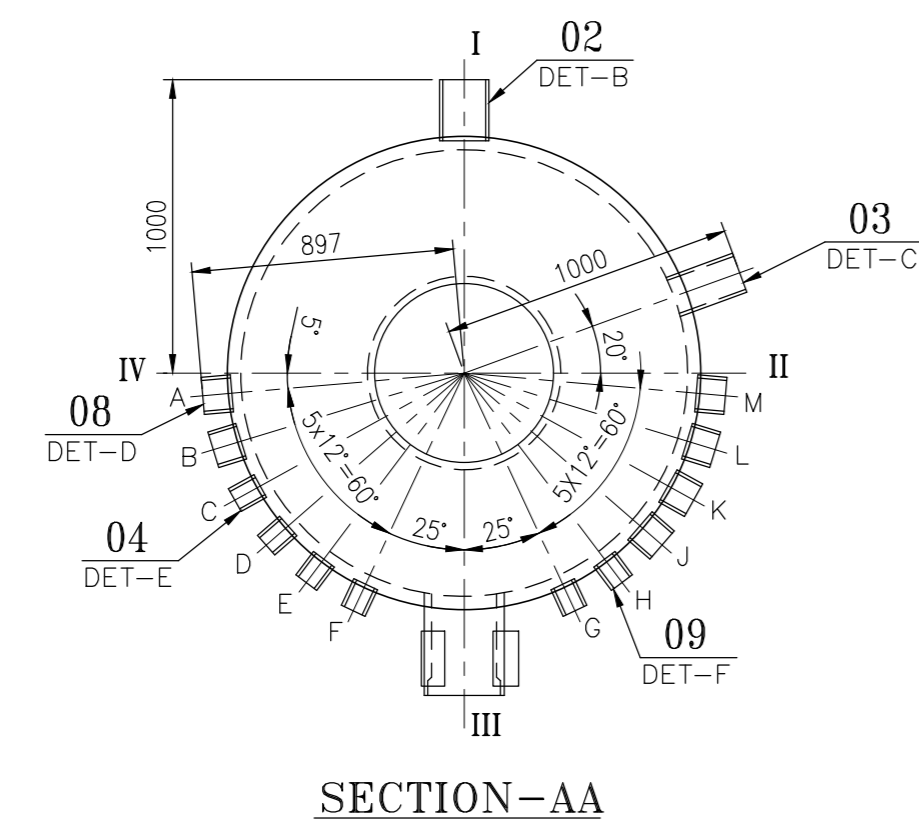
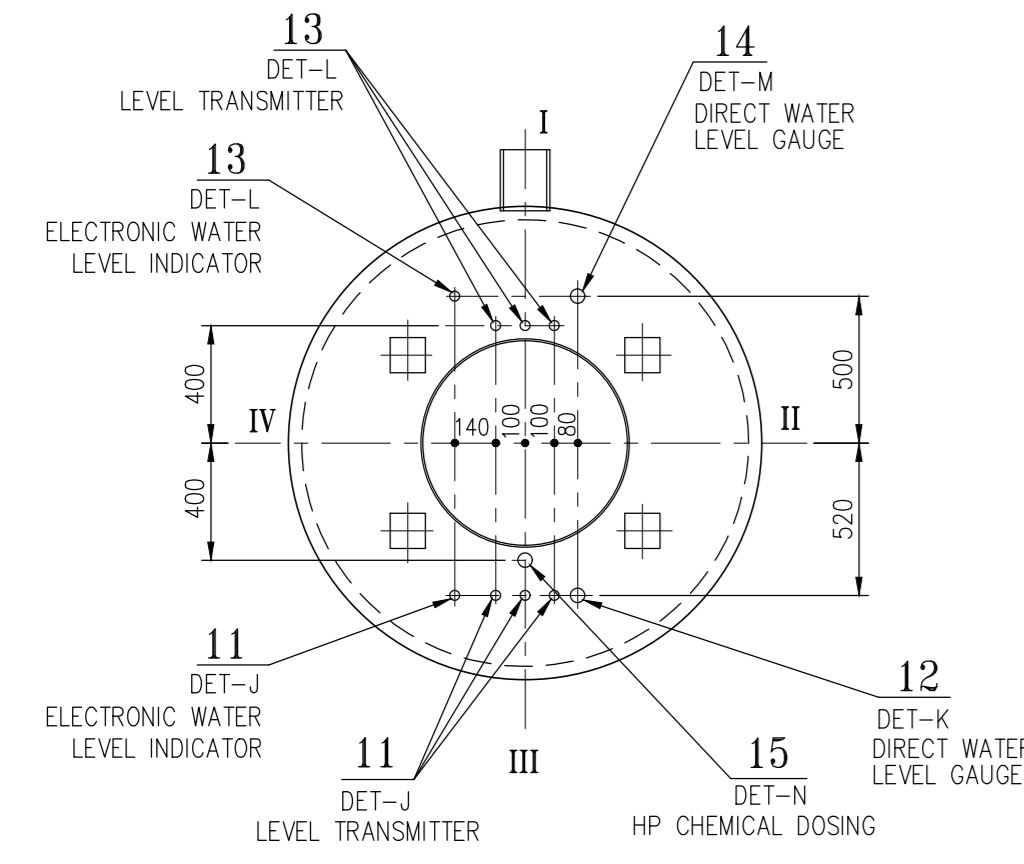
1. In Response to Tenders for Indigenous supplier will be entertained only if the vendor has a valid GSTIN which should be clearly mentioned in the offer. If any specific exemption is available, a declaration with due supporting documents need to be furnished for considering the offer.
2. Supplier shall mention their GSTIN in all their invoices and invoices shall be in the format as specified/prescribed under GST laws. Invoices shall necessarily contain Invoice number (in case of multiple numbering system is being followed for billing like SAP invoice no, commercial invoice no etc., then the Invoice No which is linked/uploaded in GSTN network shall be clearly indicated), item description as per PO, Quantity, Rate, Value, applicable taxes with nomenclature (like IGST, SGST, CGST & UTGST) separately, HSN/ SAC Code, etc.
3. All invoices shall bear the HSN Code for each item separately (Harmonized System of Nomenclature)/ SAC code (Services Accounting Code).
4. A declaration to the effect that all invoice particulars are/were uploaded in the GSTN network/ portal & all tax liability as per GST rules and regulations have been and will be discharged, shall be mentioned in the invoice. If not mentioned in the invoice, a separate declaration shall be submitted as per the requirement of BHEL.
5. All documents like Test Certificate, LR copy, Guarantee/Warranty certificate, work completion certificate, any other document mentioned in PO, shall be sent along with the vehicle/consignment where ever applicable. For all consignments received within the calendar month, input credit will be availed within that month in line with monthly returns filing cycle. In case of any discrepancy in the document or non-submission of documents mentioned in the PO, then BHEL will not be able to accept or account the material, in such case availing of tax credit will be deferred to next month or so.
6. In case of discrepancy in the data uploaded by supplier in the GSTN portal or in case of any shortages or rejection in the supply, then BHEL will not be able to avail the tax credit and will notify the supplier of the same. Supplier has to rectify the data discrepancy in the GSTN portal or issue credit note (details to be uploaded in GSTN portal) for the shortages or rejections in the suppliers, within the calendar month notified by BHEL.
7. For any such delay in availing of tax credit for reasons attributable to supplier (as mentioned above), interest (calculated @ SBI Base Rate + 6%) along with penalty if any will be deducted for the delayed period i.e. from the month of receipt till the month tax credit is availed, from the running bills.
8. Under GST regime, BHEL has to discharge GST liability on LD recovered from suppliers/contractors. Hence applicable GST shall also be recoverable from suppliers/contractors on LD amount. For this Debit note will be issued by BHEL indicating the respective supply invoice number.
9. This is to inform that GST portion of invoice, shall be released only upon Vendor declaring such invoice in his GSTR-1 and receipt of goods and Tax invoice by BHEL and Confirmation of payment of GST thereon by vendor on GSTN portal. Alternatively, BG of appropriate value may be obtained from vendor which shall be valid At least one month after the confirmation of date of payment of GST by vendor on GSTN portal and receipt of Tax invoice and receipt of goods, whichever is later. Above is subject to receipt of goods/service and tax invoice thereof along with vendor declaring invoice in his return and paying GST within timeline prescribed for availing ITC by BHEL.
10. That in case vendor delays Declaring such invoice in his return and GST credit availed by BHEL is denied or reversed subsequently as per GST law, GST amount paid by BHEL towards such ITC reversal as per GST law shall be recoverable from vendor/contractor along with interest levied/ leviable on BHEL.

Note : The above will be followed strictly for processing vendor payments to ensure GST Compliance.

Signature of the Bidder with Stamp

NOTES :-

01. DESIGN PRESSURE : 20 kg/sq.cm(g)
02. DESIGN TEMPERATURE : 214°C
03. HYDRAULIC TEST PRESSURE AT SHOP : 30 kg/sq.cm(g)
04. HEAT TREATMENT AS PER I.B.R.
05. ALL OPENINGS IN THE DRUM SHOULD BE PLUGGED BEFORE DESPATCH
06. ALL MACHINED SURFACES SHOULD BE PROTECTED.
07. THE DRUM SHALL BE POST WELD HEAT TREATED AFTER WELDING NOZZLES & ATTACHMENTS.
08. DESIGN, MANUFACTURING & INSPECTION AS PER I.B.R.
09. REMOVE TEMPORARY CHILL BAR AFTER GROOVE IS WELDED GROOVE BACK TO SOUND METAL BEFORE MAKING FILLET.
10. HOLES OF Ø5 ARE TO BE DRILLED AT SHOP ON ITEM No.15 AT EQUAL SPACES (1m SPAN APPROX) BEFORE WELDING TO DRUM SHELL.
11. CIRCUMFERENTIAL PITCHES ARE CALCULATED ON OUTER RADIUS (R797) OF DRUM
12. ITEM NO.21 & 24 TO BE HAMMERED SUITABLY TO BUTT WITH DISHED END SURFACE BEFORE WELDING
13. FOR DRUM TOLERANCES REFER DRG.No: 0-03-000-U6001.
14. REFER DRG. No.1-04-116-U8038 FOR DETAIL - D,G,T & U.



ITEM NUMBER	DESCRIPTION	DRAWING NUMBER	FORM NO	MATERIAL CODE	UNIT WEIGHT	QUANTITY	ZONE
33	METAL TEMPERATURE PAD PL16x30x30	4-04-116-U8186	15 011 026	IS2062 FE 410A	0.110	4	
32	SPIRAL WOUND GASKET		59 154 470		0.140	1	
31	SPIRAL WOUND GASKET		59 154 469		0.100	1	
30	WASHER PNCHD A20	41408 20000	41408 00020		0.077	32	
29	NUT HEX GR C 4.6 M 20	41304 20000	41304 00020		0.065	16	
28	BOLT HEX GR C4.6 M 20X120	41221 20120	41221 20120		0.356	16	
27	BLANK FLANGE 4-04-116-U8283		SA 105		16.750	2	
26	BLANK FLANGE 4-04-116-U8282		SA 105		9.700	1	
25	CURVED PLATE 4-04-116-U8281		SA 105		9.400	1	
24	CURVED PLATE 4-04-116-U8280		IS2062 FE410A		12.500	1	
23	ERECTOR LUG 4-04-116-U8188		IS 011 098		5.145	6	
22	PAD PLATE PL 10 x 120 x 120		IS 011 098		1.130	8	
21	CHILL BAR-IV 4-04-116-U8285		IS 011 027		1.600	1	
20	CHILL BAR-III 4-04-116-U8284		IS 011 027		1.300	1	
19	CHILL BAR-II 4-04-116-U8279		IS 011 027		1.528	1	
18	CHILL BAR-I 4-04-116-U8278		IS 011 027		3.000	2	
17	INSULATION STOP BAND 4-04-116-U8320		IS 011 092		13.230	2	
16	RING 4-04-116-U8277		IS 011 092		11.835	2	
15	SLEEVED NIPPLE TUBE D31.8 x 4 3-04-116-U8285		IS 2062 FE 410A		3.156	1	
14	NIPPLE D48.3 3-04-116-U8292		(SA 213 TP 304H)		2.400	1	
13	NIPPLE D33.4 3-04-116-U8291		(SA 106 Gr-B)		1.458	1	
12	SLEEVED NIPPLE PIPE D48.3 x 5.08 3-04-116-U8290		(SA 106 Gr-B)		6.026	1	
11	SLEEVED NIPPLE PIPE D33.4 x 4.55 3-04-116-U8289		(SA 106 Gr-B)		3.664	1	
10	NIPPLE PIPE D33.4 x 4.55 3-04-116-U8343		(SA 106 Gr-C)		0.680	6	
09	NIPPLE D73 (RISER) PIPE D73 x 7.01 3-04-116-U8288		(SA 106 Gr-C)		1.250	5	
08	NIPPLE D127 (RISER) PIPE D127 x 7.01 4-04-116-U8322		(SA 106 Gr-C)		5.390	1	
07	SAFETY VALVE NIPPLE-II D 157x27.7 2-04-116-U8118		(SA 105)		34.940	1	
06	SAFETY VALVE NIPPLE-I D 125 x 24.4 2-04-116-U8117		(SA 105)		23.433	1	
05	SADDLE SUPPORT 1-04-116-U8039				392.650	2	
04	NIPPLE D88.9 (RISER) PIPE D88.9x12.5 3-04-116-U8287		SA 106 Gr-C		1.275	65	
03	FEED NOZZLE D141.3 PIPE D141.3x9.53 3-04-116-U8286		(SA 106 Gr-B)		44.020	1	
02	NIPPLE D168.3 (SAT LINK) PIPE D168.3x21.95 4-04-116-U8276		(SA 106 Gr-C)		17.270	1	
01	DC NOZZLE D273 PIPE D273x28 3-04-116-U8284		(SA 106 Gr-C)		59.000	2	

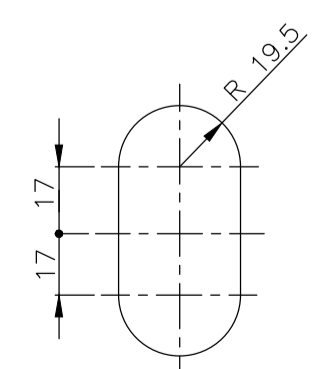
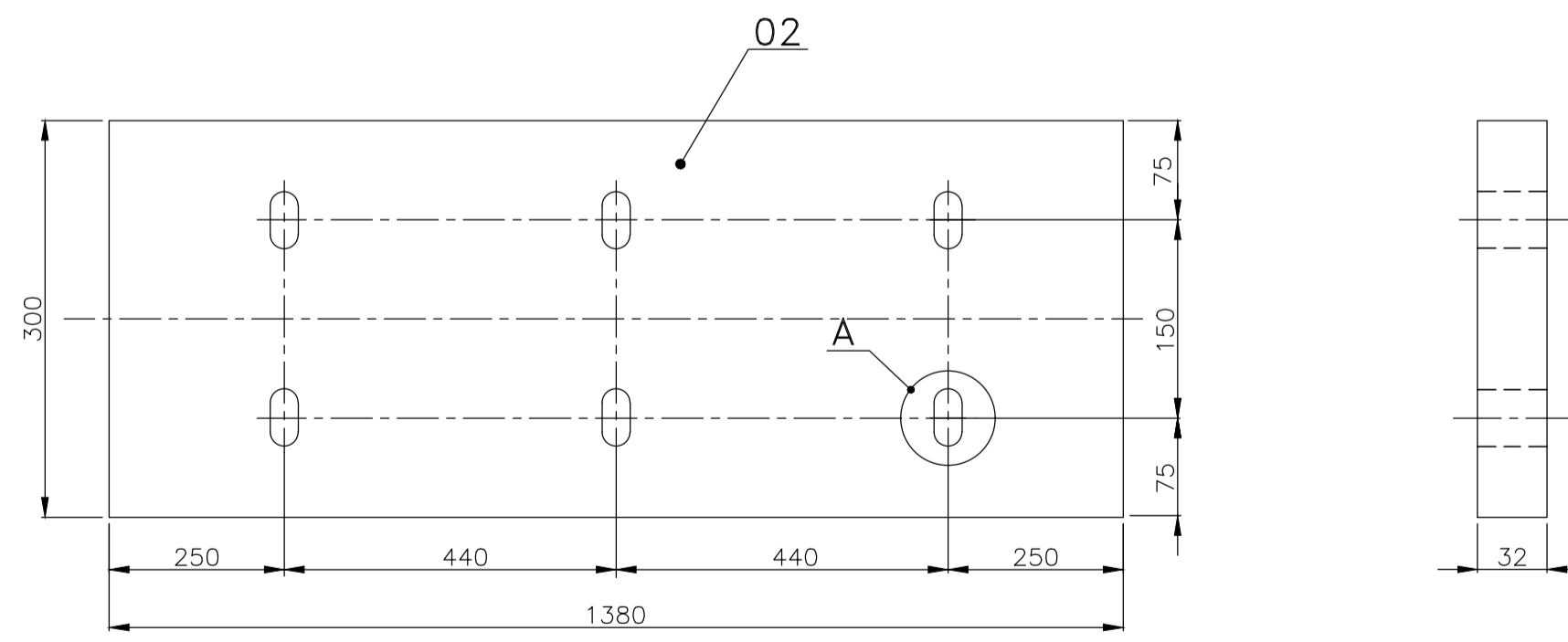
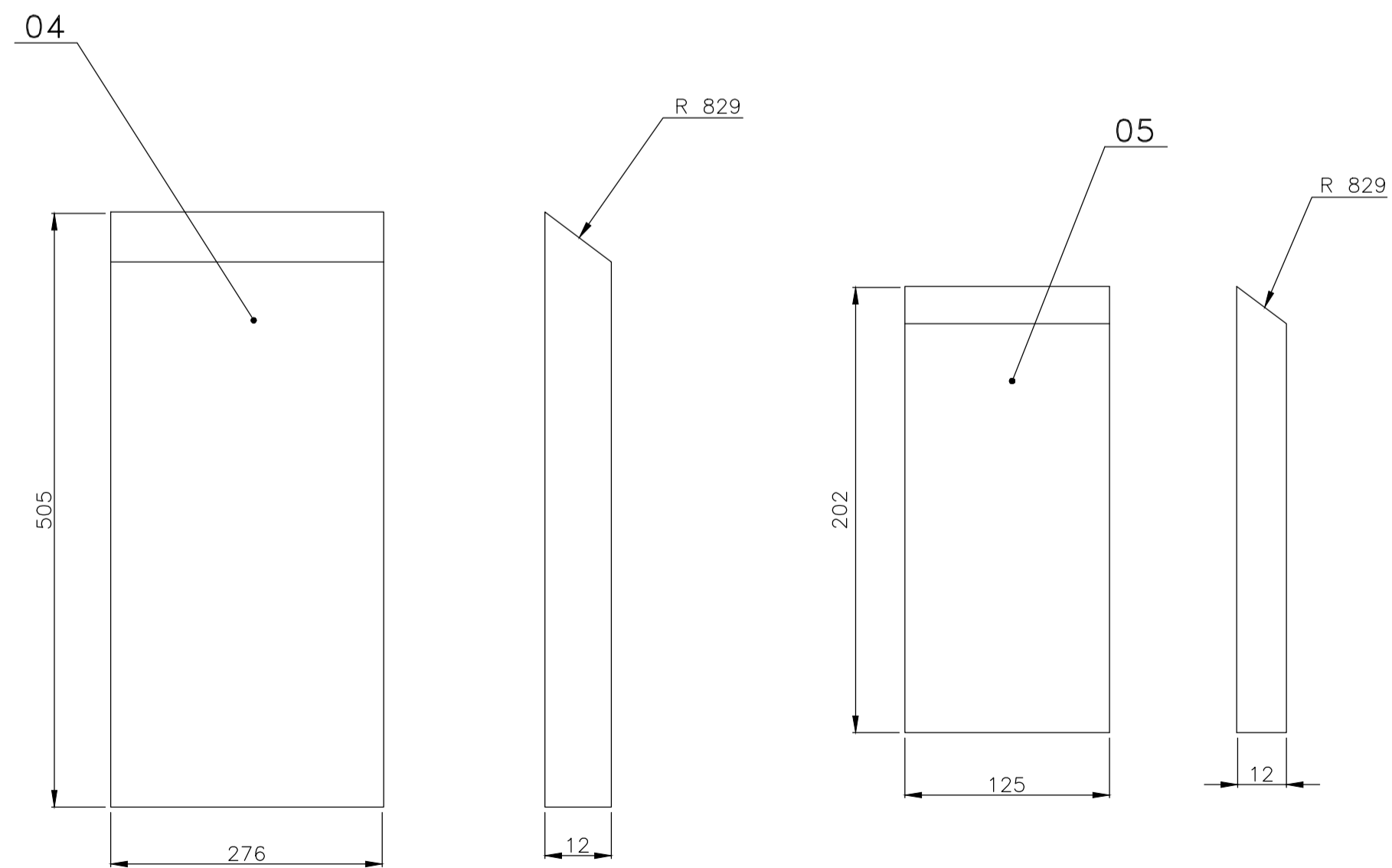
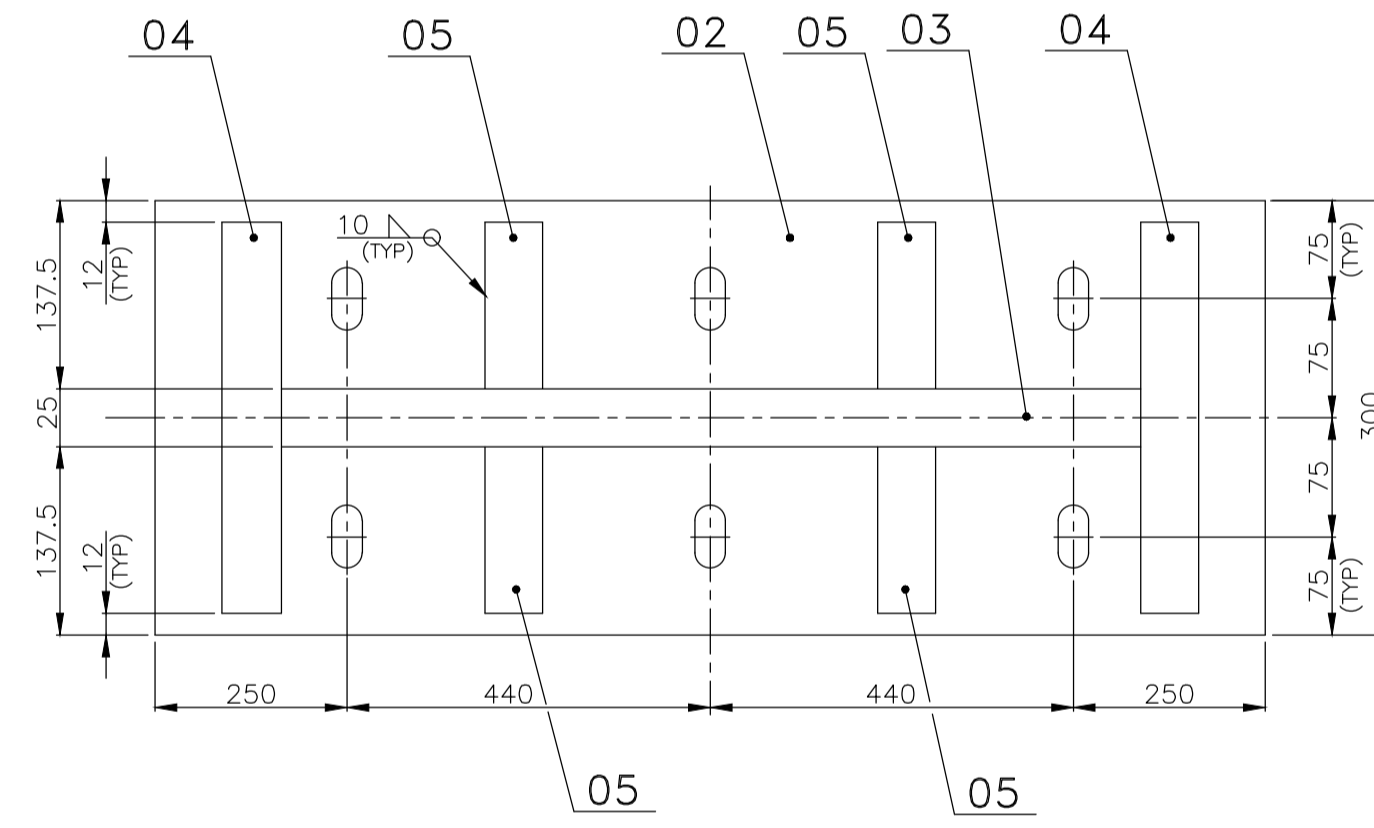
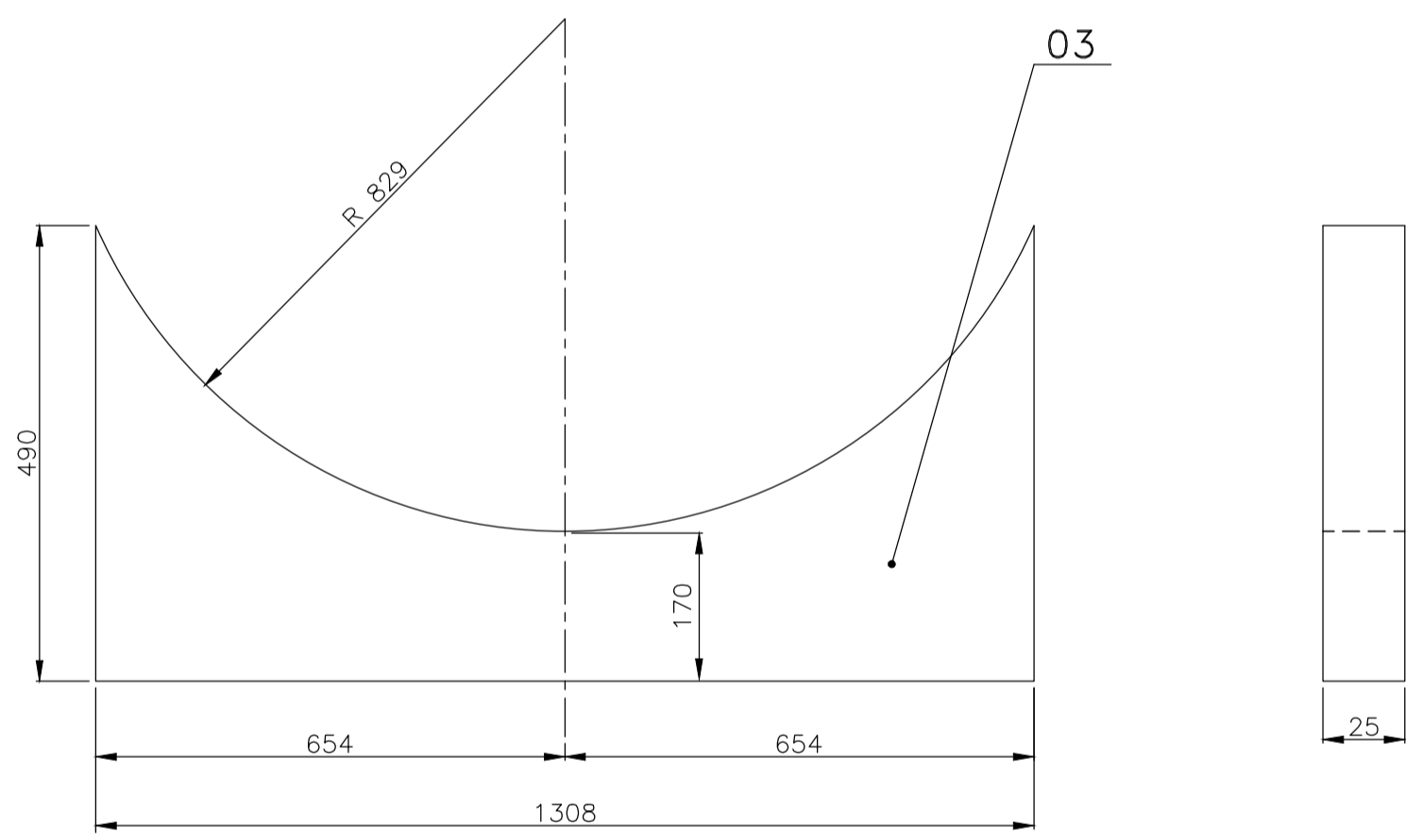
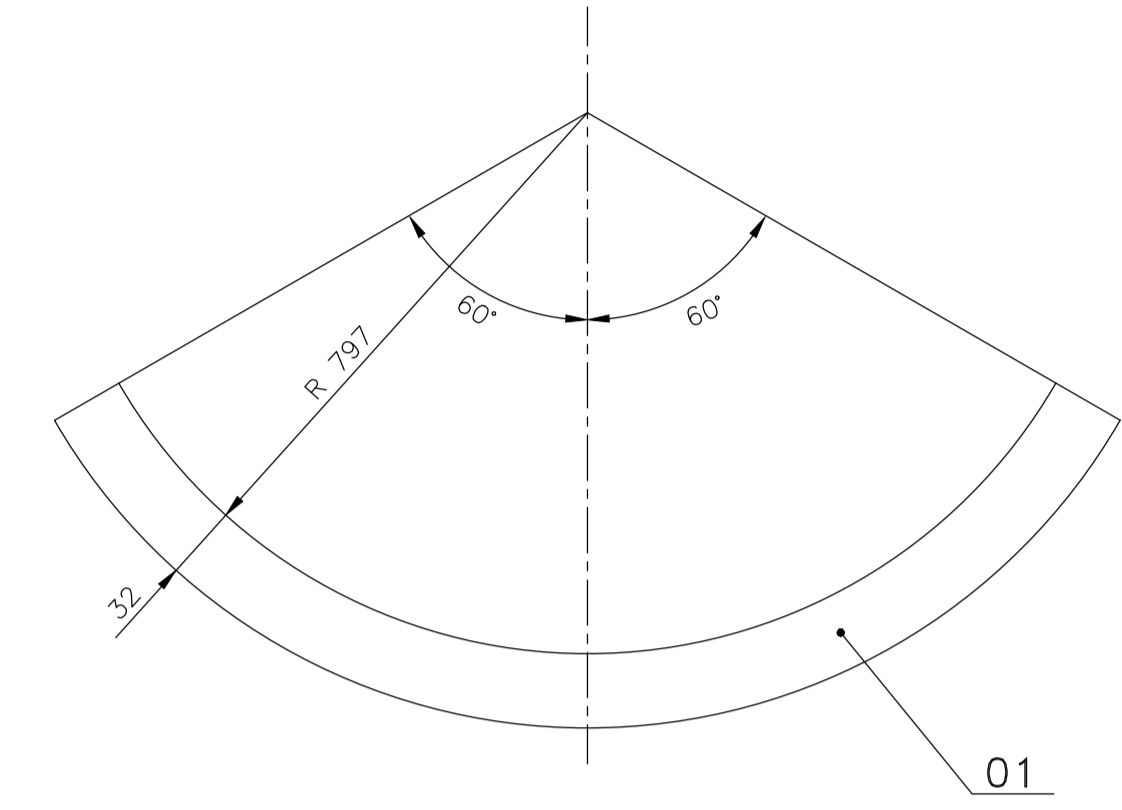
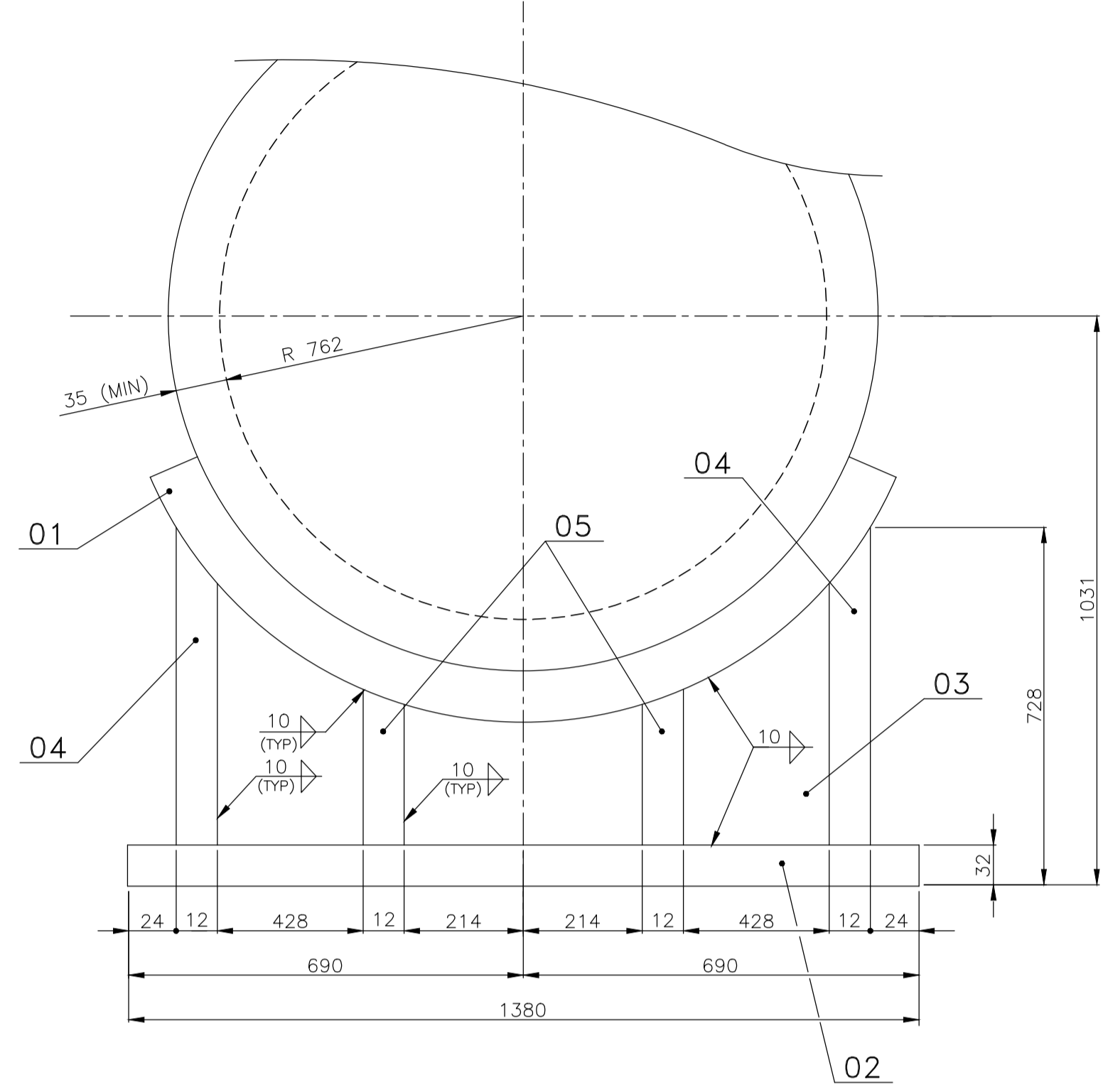
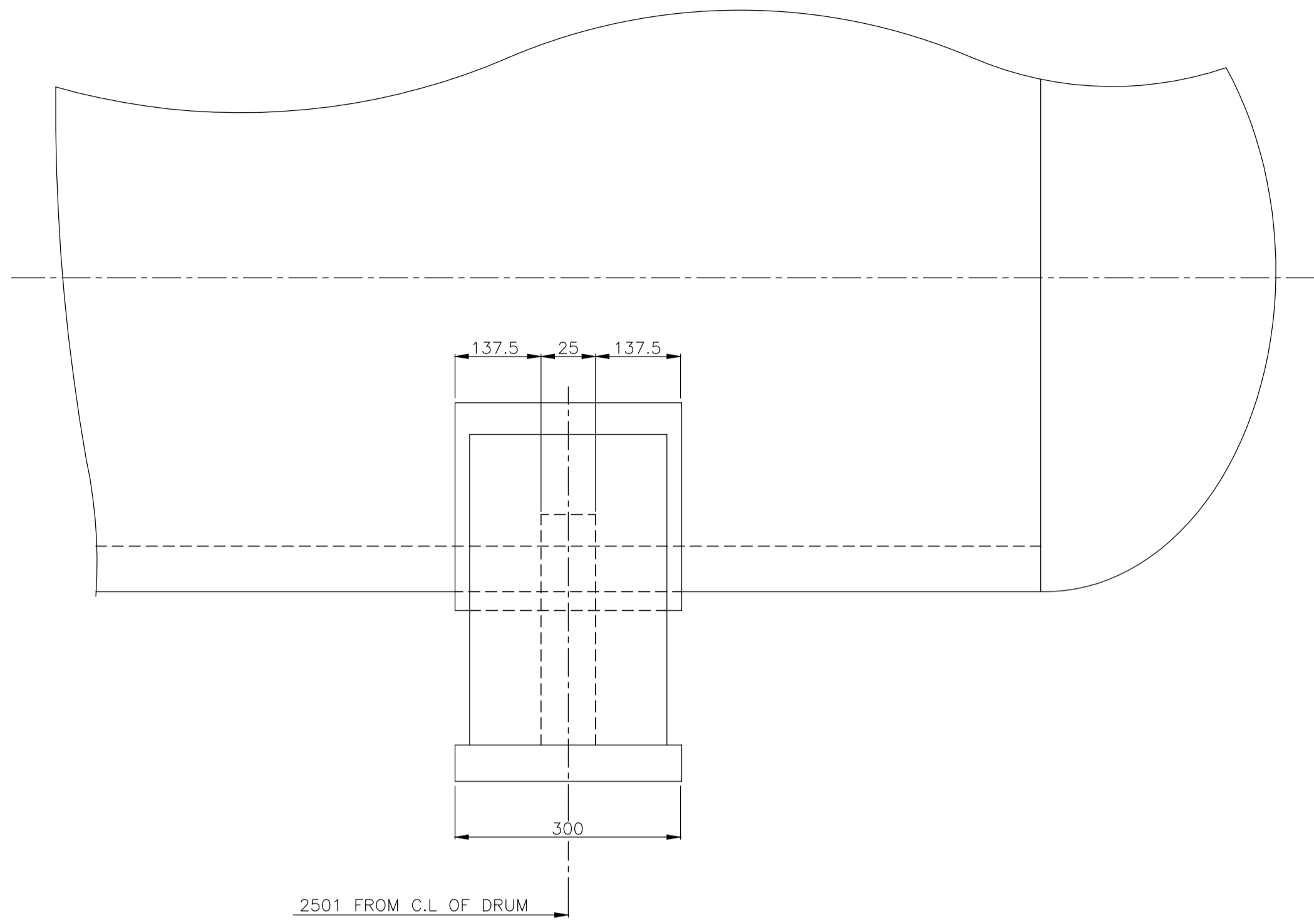
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01	20.08.19		ANJUK & YPK			01	15.05.19				
02						02	15.05.19				

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT	NAME	DATE
Bharat Heavy Electricals Ltd	GDEMLOU	15.05.19
UNIT: HEAVY PLATES AND VESSELS PLANT	M.V.R.PRASAD	15.05.19
VISAKHAPATNAM - 530012	Y.PRASAD KUMAR	15.05.19

SCALE	WEIGHT (kg)	REV
1:25 & N.T.S	1528.584	01

TITLE	DRAWING NO :	REV
BOILER DRUM WITH STUBS AND DRILLING DETAILS	0-04-116-U8048	01

1-04-116-U8039
DRAWING NO.



DETAIL-A

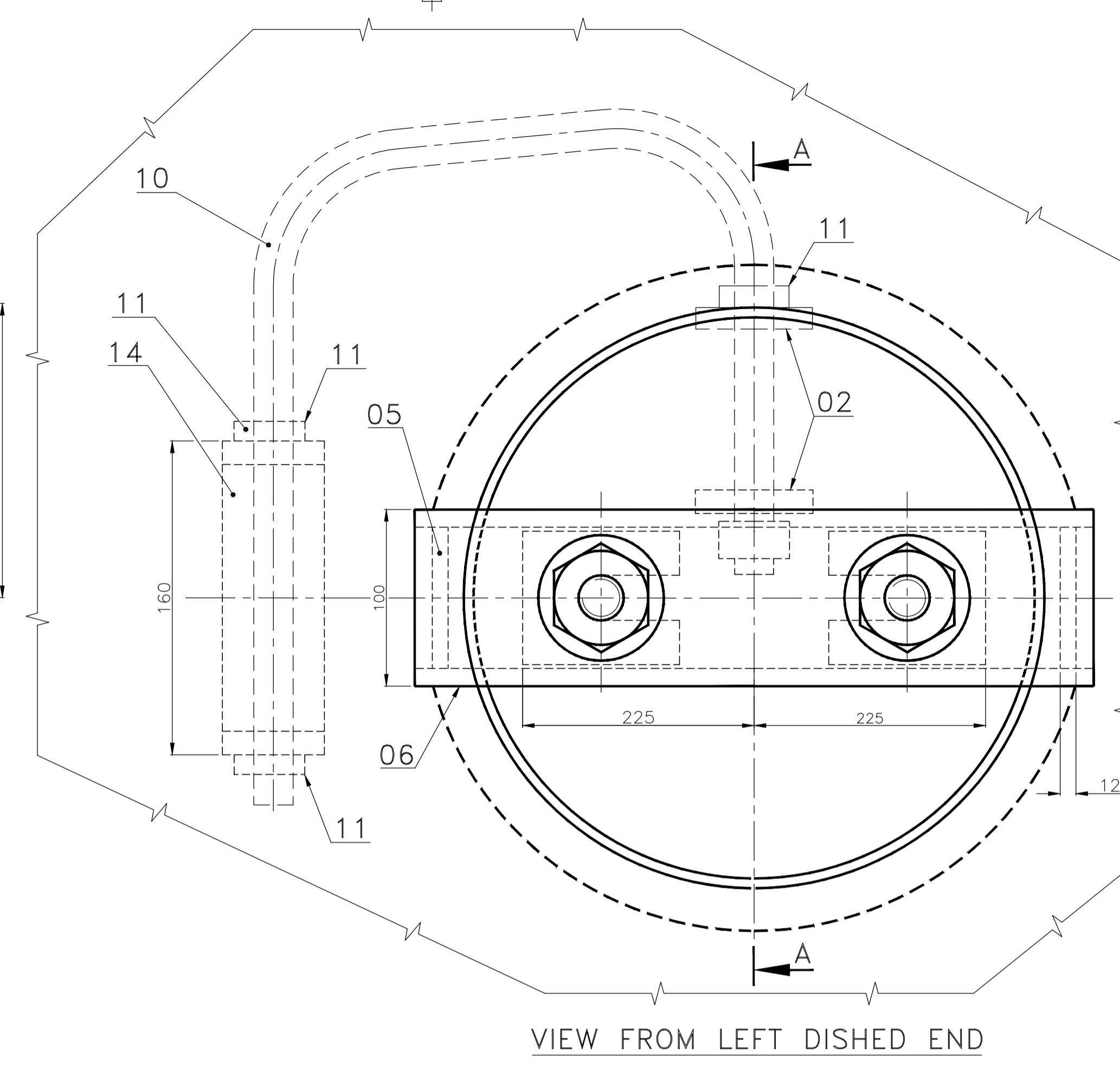
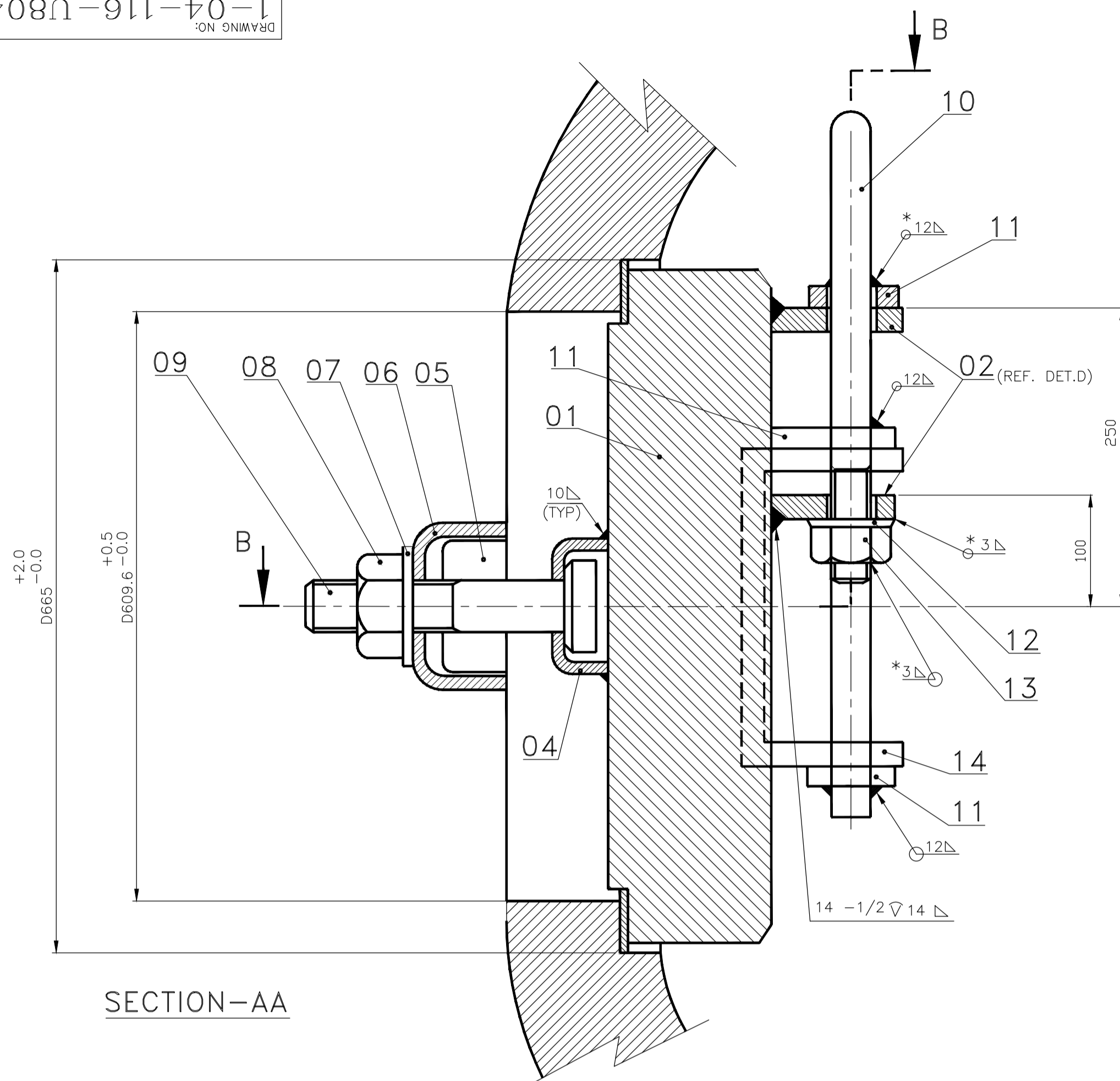
NOTE:-

01.MATERIAL ISSUED FOR ONE ASSEMBLY, TWO ASSEMBLIES REQUIRED PER BOILER.
02.ITEM NO. 01 TO BE SUPPLIED IN TACKWELDED CONDITION TO DRUM SHOP.
AFTER MATCHING WITH DRUM IT IS TO BE FULLY WELDED WITH REST OF THE SADDLE AS PER DRAWING.

ITEM NUMBER	DESCRIPTION	STD	DRAWING NUMBER	ITEM NO	MATERIAL CODE	UNIT	UNIT WEIGHT	ZONE
VAR NO	MATERIAL SPECN	A/C	D1	QUANTITY	OS			
05	PL.12X125X202			15 942 110	SA 515 Gr 70	C	2.350	
				SA 515 Gr 70			4	
04	PL.12X276X505			15 942 110	SA 515 Gr 70	C	13.000	
				SA 515 Gr 70			2	
03	PL.25X490X1308			15 942 114	SA 515 Gr 70	C	125.000	
				SA 515 Gr 70			1	
02	PL.32 x 300 x 1380			15 942 115	SA 515 Gr 70	C	103.950	
				SA 515 Gr 70			1	
01	CURVED PLATE PL.32 x 300 x 1703			15 942 115	SA 515 Gr 70	C	128.300	
				SA 515 Gr 70			1	

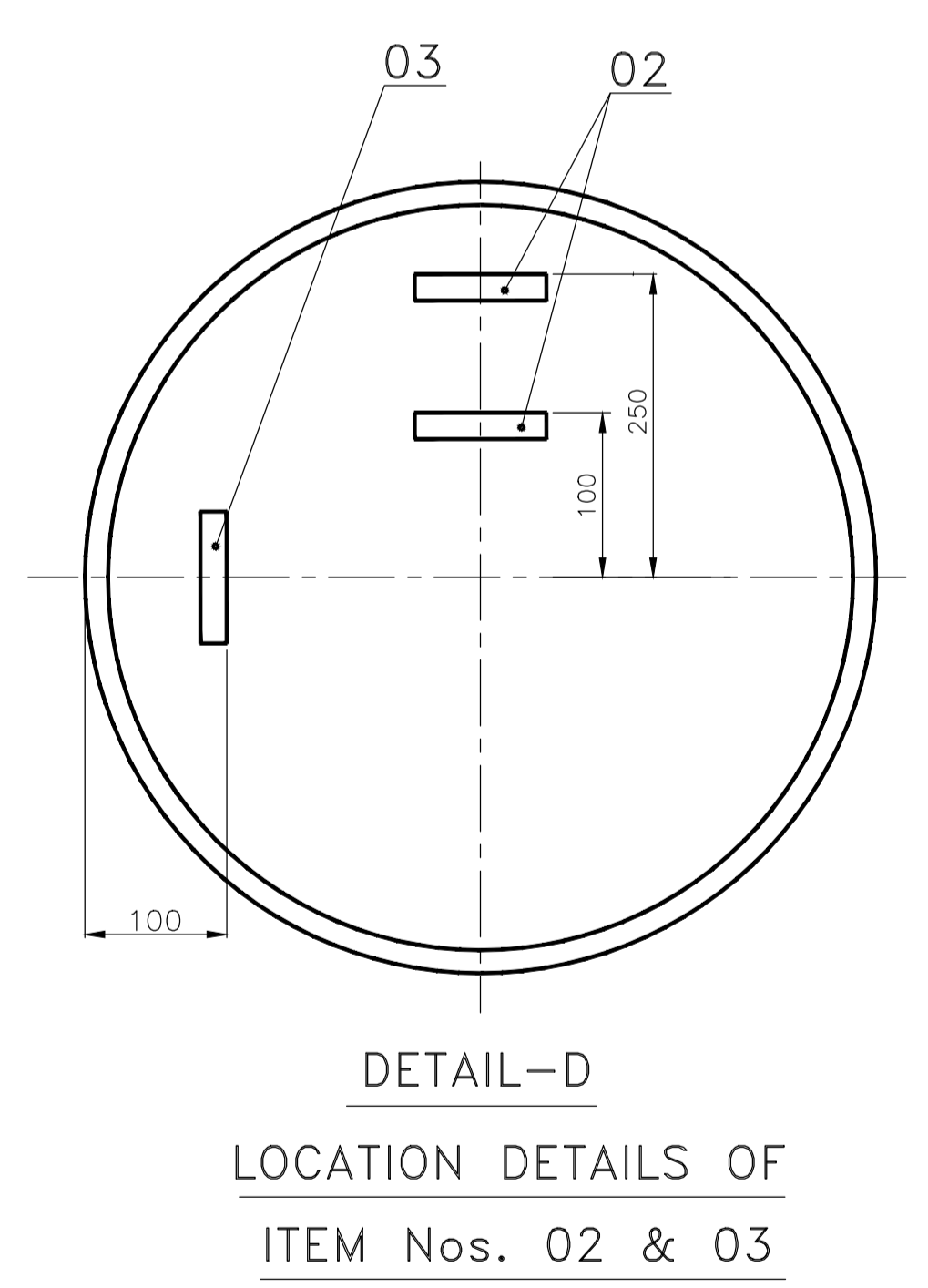
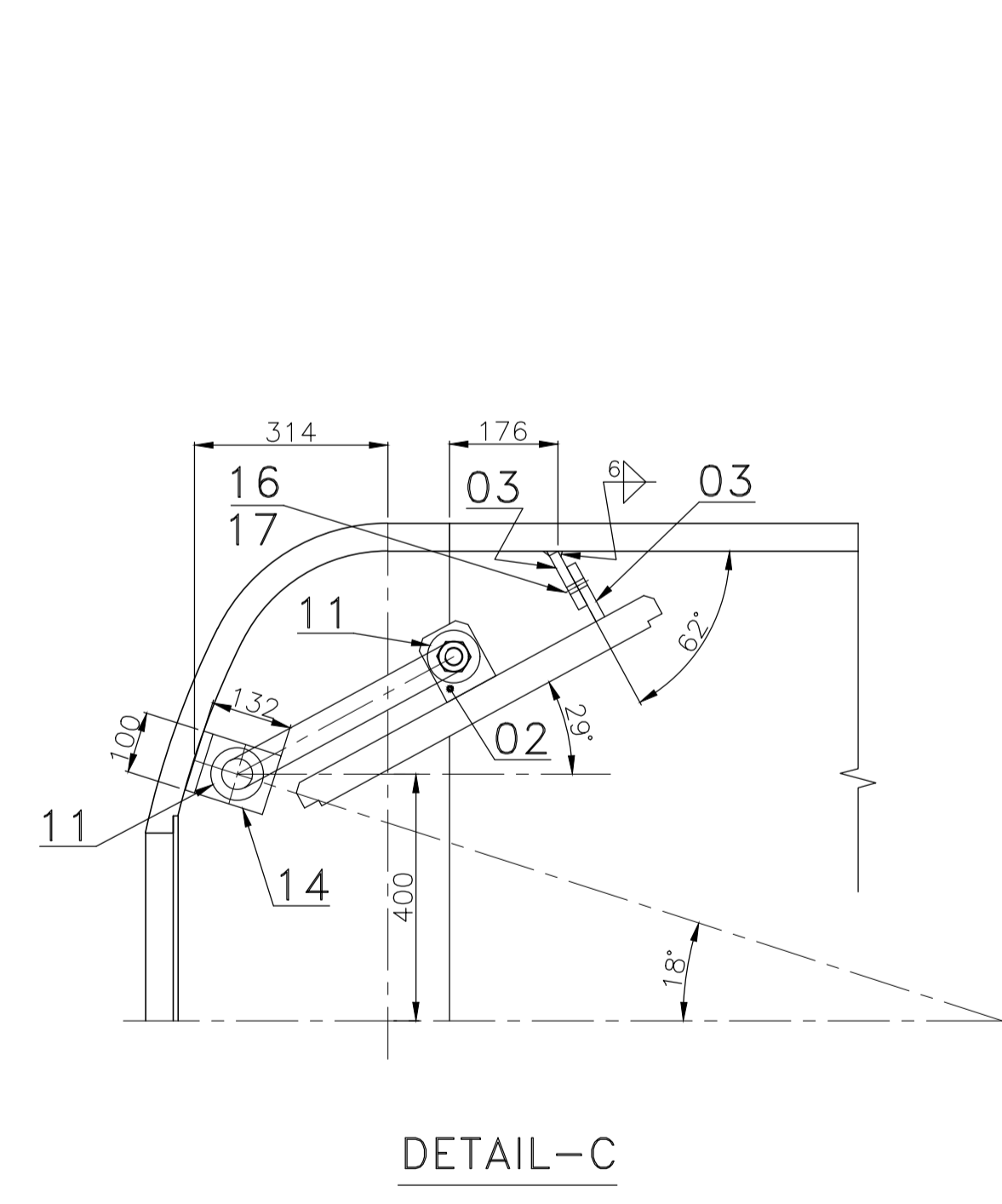
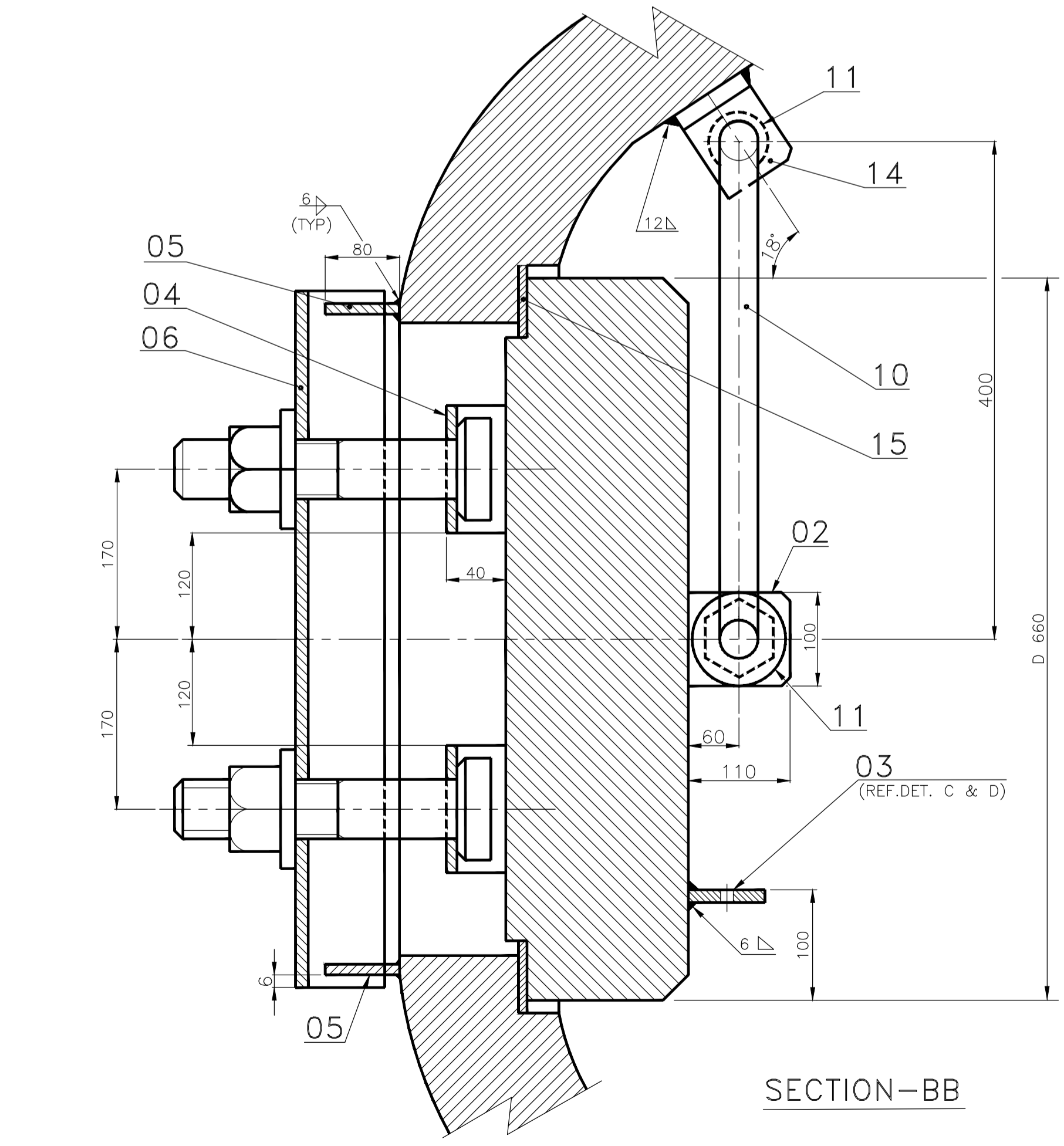
CAUTION: The information on this drawing is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be used directly or indirectly in any way detrimental to the interest of the company.		TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT		NAME G.DEMUDU		DATE 15.05.2019	
BHARAT HEAVY ELECTRICALS LTD.		UNIT: HEAVY PLATES & VESSELS PLANT VISAKHAPATNAM - 530012		M.V.R.PRASAD		15.05.2019	
DEPT HT ENGG		ALL DIMENSIONS ARE IN MM		PROJECTION N.T.S.		WEIGHT (Kg) 392.650	
CODE 320		SCALE		REF TO ASSY / OLD DWG		1-04-116-80559	
TITLE SADDLE SUPPORT				DRAWING NO :		REV 00	
				1-04-116-U8039			

REV 01	DATE	ALTERED :
ZONE		CHD & APPD :



- NOTES:-
- ARRANGEMENT AS SHOWN HERE IS LEFT HANDED, IT MAY BE RIGHT HANDED ALSO. TO SUIT THE CONVENIENCE (THAT IS PART No 14) MAY BE WELDED TO THE DISHED END ON THE RIGHT SIDE ALSO.
 - * THESE WELDING SHOULD BE PERFORMED WHILE ASSEMBLING THE DOOR INSIDE THE DRUM.
 - DETAIL-C SHOWING THE PROVISION FOR HOLDING THE DOOR PLATE DURING THE MAINTANANCE.
 - ITEM No.05 SHOULD BE CUT AND GROUND TO SUIT THE OUTER SURFACE OF THE DISHED END AND SUITABLY LOCATED.
 - DETAIL-D SHOWS THE LOCATION OF ONE OF THE ITEM No.03 IN THE DOOR PLATE. THE ANOTHER ITEM No.03 TO BE LOCATED SUITABLY AT SHOP (INSIDE THE DRUM) AND WELD.

VARIANT NUMBER	ITEM NUMBER	DESCRIPTION	STD	DRAWING NUMBER	ITEM NO	MATERIAL CODE	A/C	UNIT	UNIT WEIGHT	QTY	ZONE
					VAR NO	MATERIAL SPECN	D1	QUANTITY			
	17	HEX. SCREW M12x50 LG.	S			412221205000			0.049		
						IS363 P2 CL.4.6			1		
						41304001200			0.017		
	16	HEX. NUT M12	S			IS363 P3 CL.4.0			1		
	15	SPIRAL WOUND GASKET 4,4THK.	S	4-03-000-U6009		19005831			1.000		
						ASI304			1		
	14	MH DOOR BRACKET PL 20		2-04-116-U8140		15011150			5.770		
					10	IS2062E250A			1		
	13	HEX NUT M5x4	S			413044005600			0.928		
						IS3138			1		
	12	PUNCHED WASHER M56-A61(ID)	S			414080005600			0.284		
						IS2016-A			1		
	11	MH DOOR COLLAR PL 12		2-04-116-U8140		15011132			0.400		
					09	IS2062E250A			3		
	10	MH DOOR SLING ROD D63		2-04-116-U8140		15039143			27.500		
					08	SA105			1		
	09	MH DOOR PIN D63 L=225		2-04-116-U8140		15039143			5.500		
					07	SA105			2		
	08	HEX. NUT M30x3P	S			413040003000			0.231		
						IS1363-P3 CL.4			2		
	07	PUNCHED WASHER M30	S			414080003000			0.050		
						IS2016-A			2		
	06	MH DOOR YOKE PL.16		2-04-116-U8140		15011026			23.125		
					06	IS2062E250A			1		
	05	MH DOOR RIB PL.16 TYPE		2-04-116-U8140		15011026			0.965		
					05	IS2062E250A			2		
	04	MH DOOR CLAMP PL.12		2-04-116-U8140		15011132			1.260		
					04	IS2062E250A			2		
	03	MH DOOR FIXING PL.16 TYPE-D		2-04-116-U8140		15011026			0.750		
					03	IS2062E250A			2		
	02	MH DOOR PL.20 TYPE-C		2-04-116-U8140		15011150			1.725		
					02	IS2062E250A			2		
	01	MH DOOR PLATE D660 T=50		2-04-116-U8140		15601854			134.000		
					01	SA 516 GR.70			1		

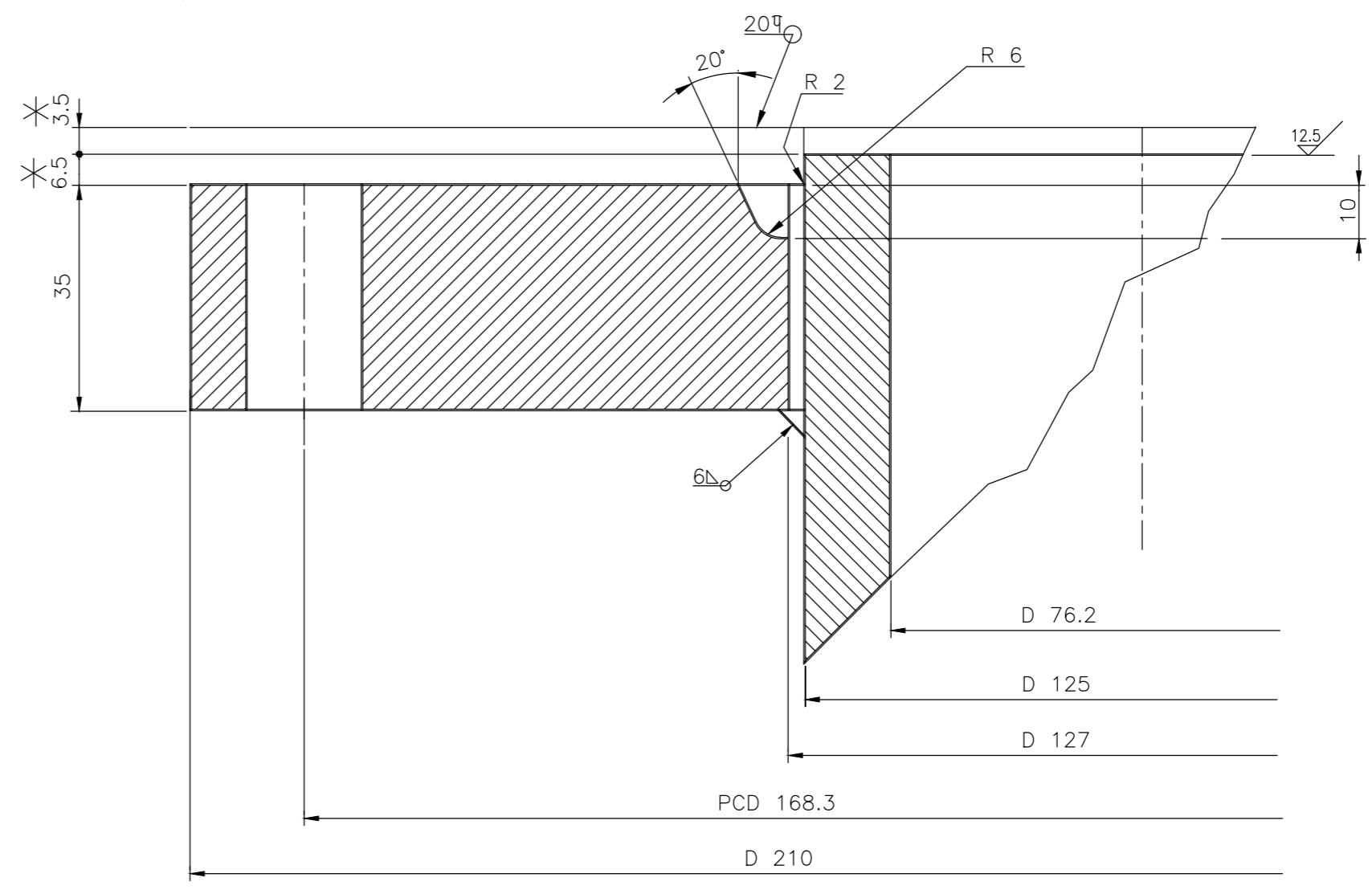
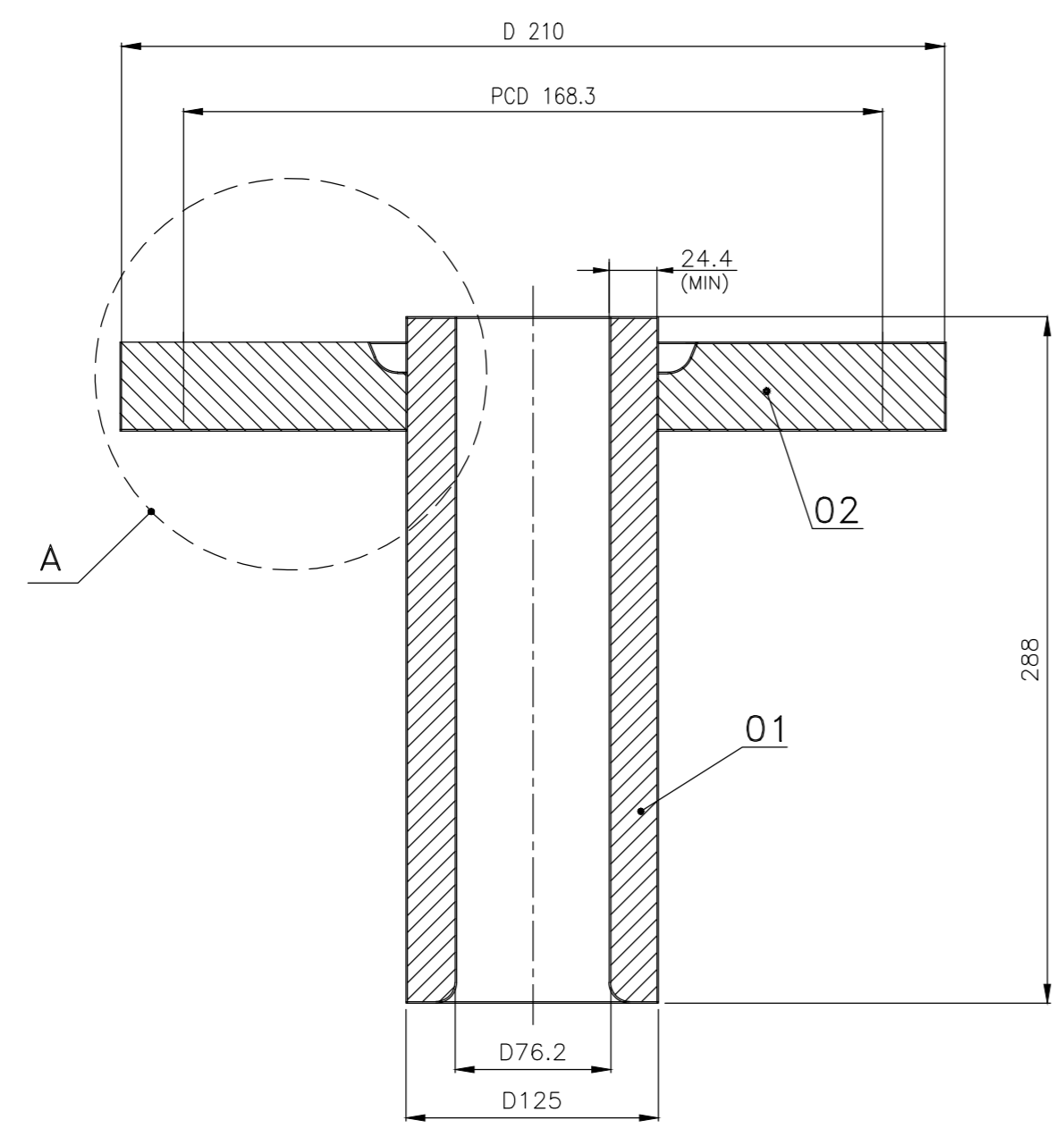


DETAIL-D
LOCATION DETAILS OF
ITEM Nos. 02 & 03

REV	DATE	ALTERED :
01		CHECKED :
ZONE		

CAUTION: The information on this drawing is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be used directly or indirectly in any way detrimental to the interest of the company.		TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT	
Bharat Heavy Electricals Ltd UNIT: HEAVY PLATES & VESSELS PLANT VISAKHAPATNAM - 530012		DRN G. DEMUDU	DATE 15.05.2019
DEPT HT ENGG		CHD M.V.R.PRASAD	APPD Y.PRASANNA KUMAR
ALL DIMENSIONS ARE IN MM		SCALE NTS	WEIGHT (Kg) 214.835
TITLE MANHOLE DOOR ASSY.		REF TO ASSY / OLD DWG	
		DRAWING NO : 1-04-116-U8045 00	
		REV	

DRAWING NO: 2-04-116-U8117

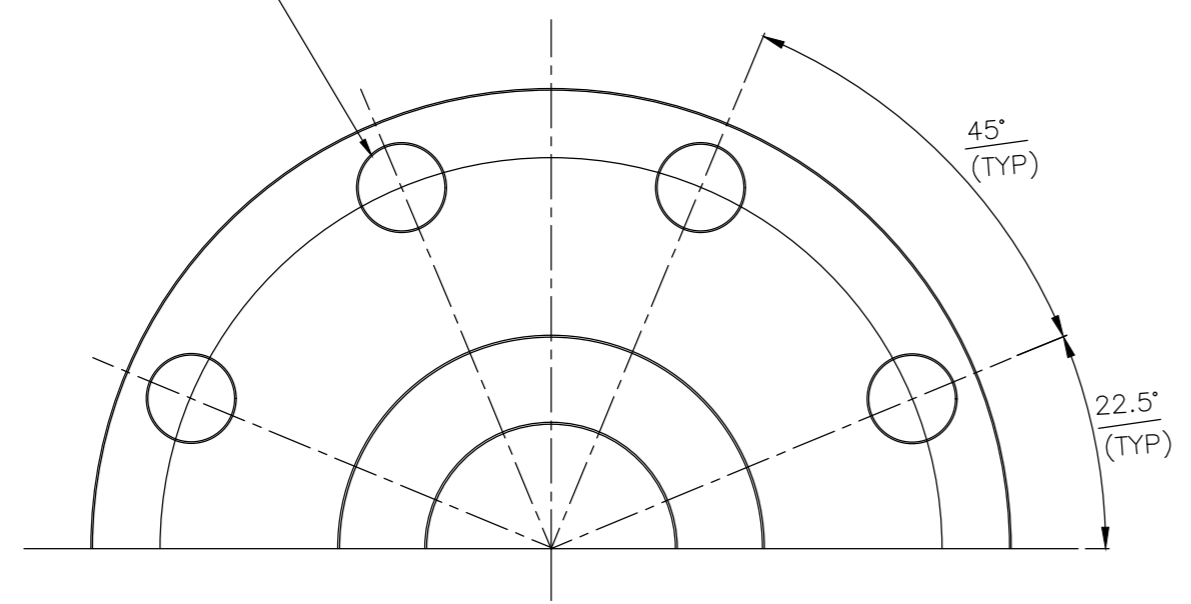


DETAIL - A

NOTES:

- 01. DESIGN PRESSURE : 20kg/sq.cm (g)
- 02. DESIGN TEMPERATURE : 214°C
- 03. ALLOWABLE PRESSURE AS PER ANSI. B16.5 (600#) AT 219°C IS 87 kg/sq.cm(g).

8 HOLES D23 ON PCD 168.3
EQUI. SPACED



* NOTE : FACES TO BE MACHINED AFTER WELDING ITEM No:01 WITH 02

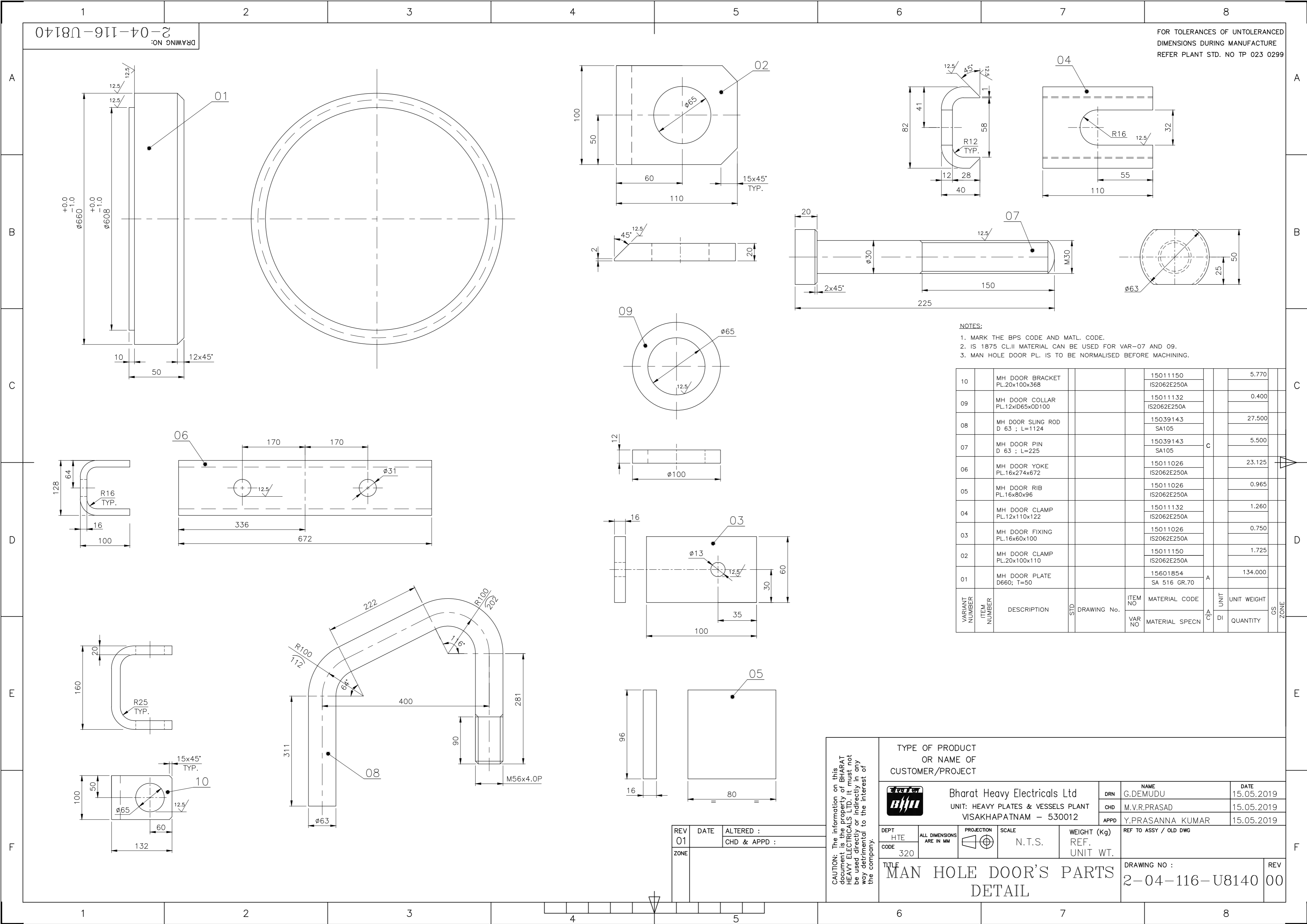
VARIANT NUMBER	ITEM NUMBER	DESCRIPTION	STD	DRAWING NUMBER	ITEM NO	MATERIAL CODE	A/C	UNIT	UNIT WEIGHT	GS	ZONE
	02	ROUND D250 L = 35+10			15 339 294	SA 105	A		6.000		
	01	ROUND D125 L = 288+3.5			15 339 281	SA 105	A		17.433		
								D1	QUANTITY		

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	Bharat Heavy Electricals Ltd UNIT: HEAVY PLATES AND VESSELS PLANT VISAKHAPATNAM - 530012			DRN	G.DEMUDU	15.05.19
				CHD	M.V.R.PRASAD	15.05.19
	DEPT HT ENGG CODE 320	ALL DIMENSIONS ARE IN MM	SCALE N.T.S	WEIGHT (Kg) 23.433	APPD Y.PRASANNA KUMAR	15.05.19
TITLE SAFETY VALVE NIPPLE-I				REF TO ASSY / OLD DWG 2-04-116-81207		DRAWING NO : 2-04-116-U8117
						REV 00

REV 01	DATE	ALTERED :
ZONE		CHECKED :

DRAWING NO: 2-04-116-U8140

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER PLANT STD. NO TP 023 0299



NOTES:

1. MARK THE BPS CODE AND MATL. CODE.
2. IS 1875 CL.II MATERIAL CAN BE USED FOR VAR-07 AND 09.
3. MAN HOLE DOOR PL. IS TO BE NORMALISED BEFORE MACHINING.

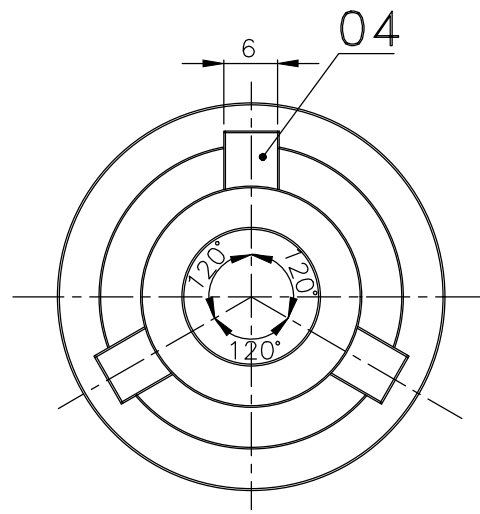
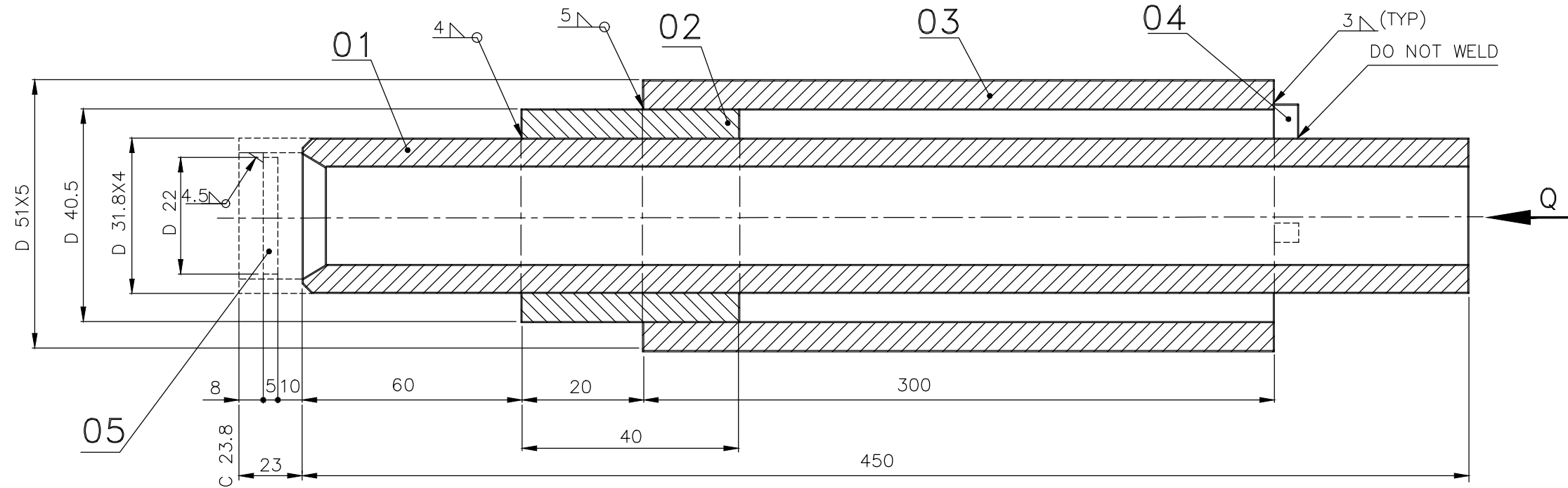
VARIANT NUMBER	ITEM NUMBER	DESCRIPTION	STD	DRAWING No.	ITEM NO	MATERIAL CODE	UNIT	UNIT WEIGHT	CS	ZONE
10		MH DOOR BRACKET PL.20x100x368				15011150 IS2062E250A		5.770		
09		MH DOOR COLLAR PL.12xID65xOD100				15011132 IS2062E250A		0.400		
08		MH DOOR SLING ROD D 63 ; L=1124				15039143 SA105		27.500		
07		MH DOOR PIN D 63 ; L=225				15039143 SA105	C	5.500		
06		MH DOOR YOKE PL.16x274x672				15011026 IS2062E250A		23.125		
05		MH DOOR RIB PL.16x80x96				15011026 IS2062E250A		0.965		
04		MH DOOR CLAMP PL.12x110x122				15011132 IS2062E250A		1.260		
03		MH DOOR FIXING PL.16x60x100				15011026 IS2062E250A		0.750		
02		MH DOOR CLAMP PL.20x100x110				15011150 IS2062E250A		1.725		
01		MH DOOR PLATE D660; T=50				15601854 SA 516 GR.70	A	134.000		

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT				NAME		DATE	
Bharat Heavy Electricals Ltd UNIT: HEAVY PLATES & VESSELS PLANT VISAKHAPATNAM - 530012				DRN	G.DEMUDU	15.05.2019	
				CHD	M.V.R.PRASAD	15.05.2019	
				APPD	Y.PRASANNA KUMAR	15.05.2019	
DEPT CODE	HTE 320	ALL DIMENSIONS ARE IN MM	PROJECTION	SCALE	WEIGHT (Kg) REF. UNIT WT.	REF TO ASSY / OLD DWG	
TITLE				DRAWING NO :		REV	
MAN HOLE DOOR'S PARTS DETAIL				2-04-116-U8140		00	

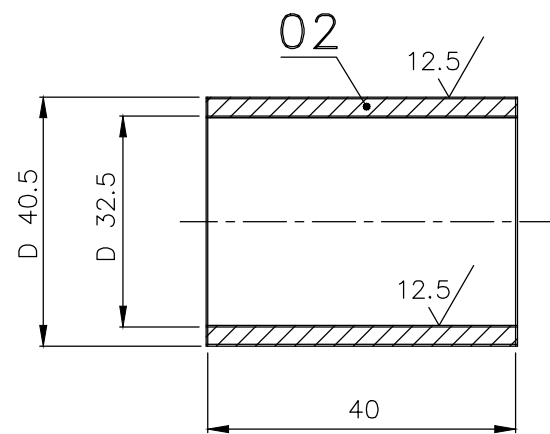
CAUTION: The information on this document is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be used directly or indirectly in any way detrimental to the interest of the company.

REV	DATE	ALTERED :
01		CHD & APPD :
ZONE		

DRAWING NO: 3-04-116-U8285



VIEW-Q




VARIANT NUMBER	ITEM NUMBER	DESCRIPTION	STD	DRAWING NUMBER	ITEM NO	MATERIAL CODE	A/C/P	UNIT	UNIT WEIGHT	CS
					VAR NO	MATERIAL SPECN	D1	QUANTITY		
	05	PL 5; D22				15 011 029			0.020	
						IS2062FE410A			1	
	04	PL 6 X 6 X 6				15 011 092			0.002	
						IS2062FE410A			3	
	03	TUBE D51 X 5 L = 300				15 487 016	A		1.700	
						SA 210 Gr.C			1	
	02	TUBE D44.5 X 6.3 L = 40				15 488 073	A		0.150	
						SA 213 T11			1	
	01	TUBE D31.8 X 4 L = 450 + 23				15 151 028	A		1.300	
						SA213 TP304H			1	

NOTES :

- 01. DESIGN PRESSURE : 20 kg/sq.cm(g)
- 02. DESIGN TEMPERATURE : 214°C

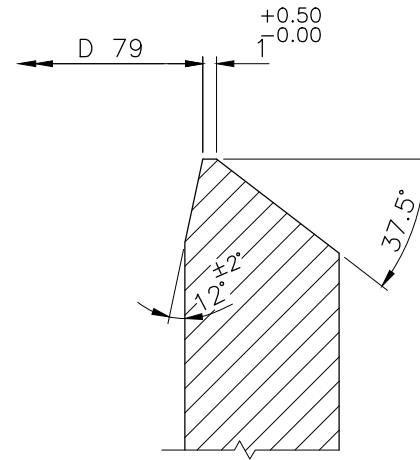
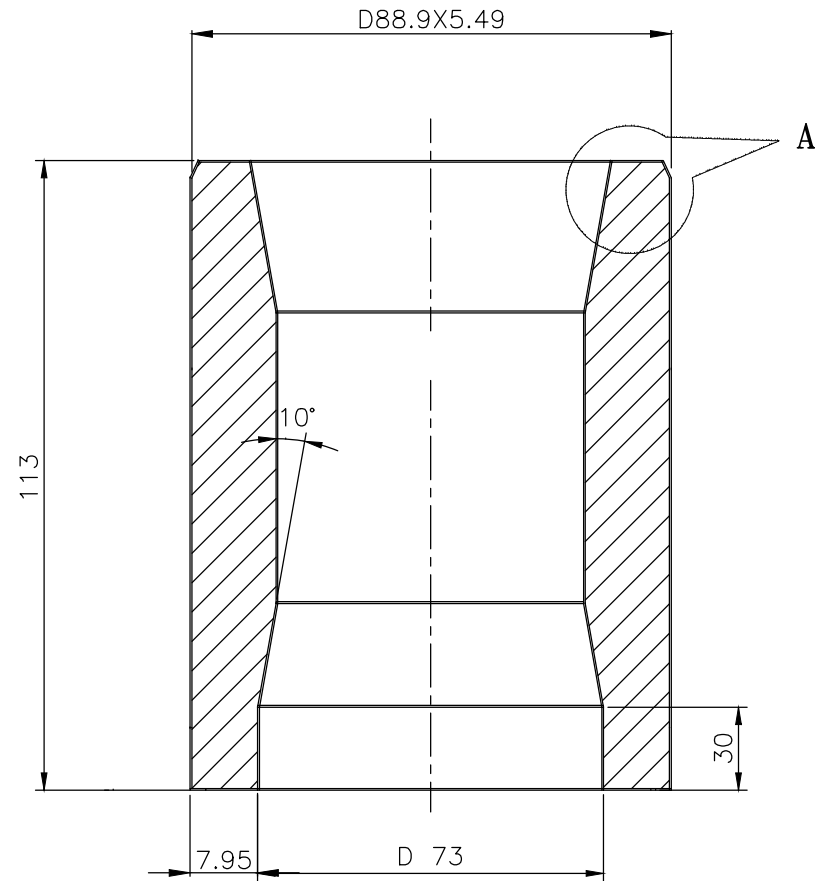
REV	DATE	ALTERED :
01		CHECKED :
ZONE		

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TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT			
 Bharat Heavy Electricals Ltd UNIT: HEAVY PLATES AND VESSELS PLANT VISAKHAPATNAM - 530012		DRN	NAME
361-257		G.DEMUDU	DATE
DEPT HT ENGG		M.V.R.PRASAD	15.05.19
CODE 320		Y.PRASANNA KUMAR	15.05.19
SCALE	WEIGHT (Kg)	REF TO ASSY / OLD DWG	
N.T.S	3.156	3-04-116-83968	
TITLE		DRAWING NO :	REV
SLEEVED NIPPLE D31.8		3-04-116-U8285	00

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DRAWING NO: 3-04-116-U8287



DETAIL - A


NOTES:-

- 01. DESIGN PRESSURE : 20 kg/sq.cm(g)
- 02. DESIGN TEMPERATURE : 214°C

VARIANT NUMBER	ITEM NUMBER	DESCRIPTION	STD	DRAWING NUMBER	ITEM NO	MATERIAL CODE	A/C	UNIT	UNIT WEIGHT	CS
					VAR NO	MATERIAL SPECN		D1	QUANTITY	
		PIPE D88.9X12.5 L=113			15 183 144	SA 106 GR.C	A		1.275	

REV 01	DATE	ALTERED :
ZONE		CHECKED :

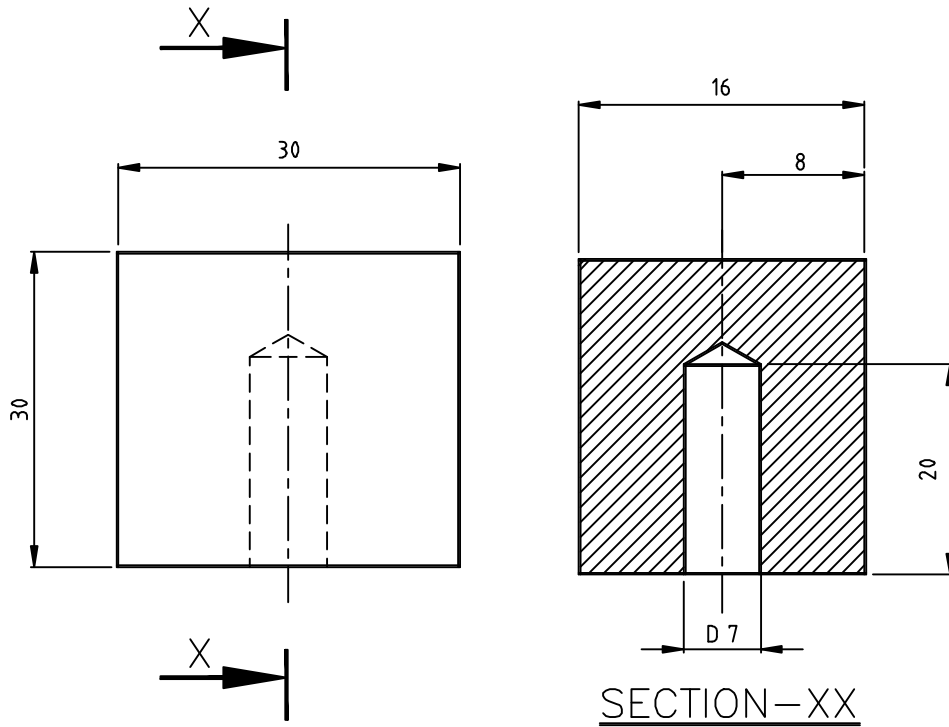
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TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT					
 361-257	Bharat Heavy Electricals Ltd		NAME	DATE	
	UNIT: HEAVY PLATES AND VESSELS PLANT		DRN	G.DEMUDU	15.05.19
	VISAKHAPATNAM - 530012		CHD	M.V.R.PRASAD	15.05.19
		APPD	Y.PRASANNA KUMAR	15.05.19	
DEPT HT ENGG	GRADE OF UNTOL. DIM C/M/F	SCALE	WEIGHT (Kg)	REF TO ASSY / OLD DWG	
CODE 320		N.T.S	1.275	3-04-116-83970	
TITLE				DRAWING NO :	REV
NIPPLE D88.9 (RISER)				3-04-116-U8287	00


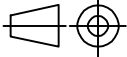
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REV	DATE	ALTERED
		CHD & APPD

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT Q.C.P\Q.P MANUFACTURING AS PER RELEVANT Q.C.P\S.Q.P

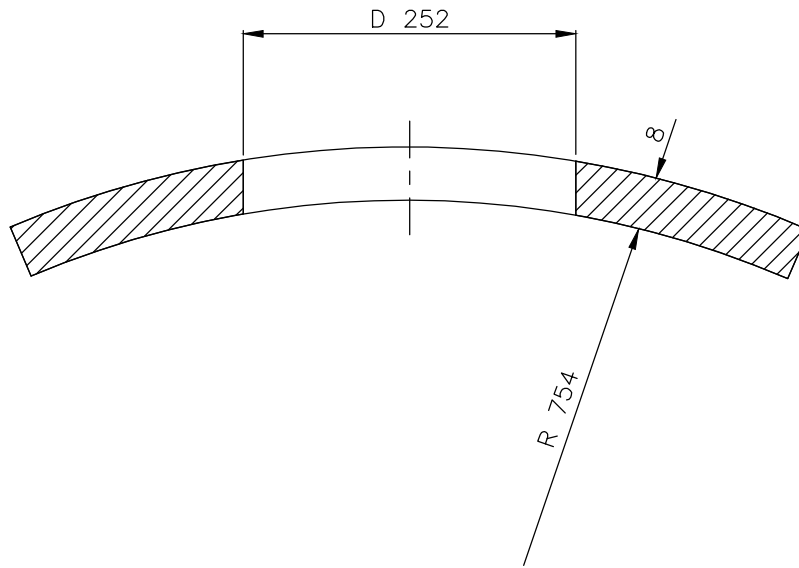


VARIANT NUMBER	DESCRIPTION	STD	A/C/P	UNIT	15011026	0.110
					IS2062FE410A	
					MATERIAL CODE	UNIT WEIGHT
					MATERIAL SPECN	QUANTITY


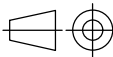
 Bharat Heavy Electricals Ltd UNIT: HEAVY PLATES & VESSELS PLANT VISAKHAPATNAM - 530012		DRN	G.DEMUDU	NAME		DATE	10.05.18	
		CHD	MVR/GGR				11.05.18	
		APPD	Y.PRASANNA KUMAR				12.05.18	
DEPT	ALL DIMENSIONS ARE IN MM	PROJECTION	SCALE	WEIGHT (Kg)	REF TO ASSY / OLD DWG			
HTE					N.T.S	0.110	4-04-118-81826	
CODE	320				DRAWING NO :			
TITLE					4-04-116-U8186		REV	00
METAL TEMPERATURE PAD								

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REV	DATE	ALTERED
		CHD & APPD

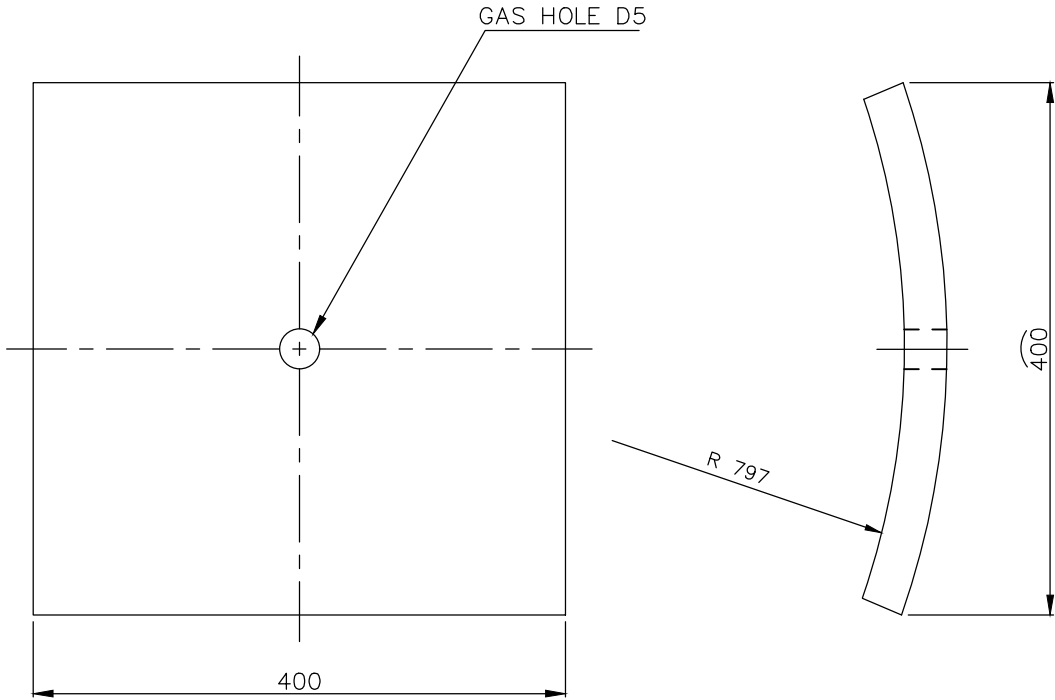


VARIANT NUMBER	DESCRIPTION	STD	PL8 ; D350	15 011 027	A/C/P	UNIT	3.000
				IS 2062 Fe410A			UNIT WEIGHT
			MATERIAL CODE				QUANTITY
			MATERIAL SPECN				


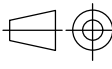
 361-321	Bharat Heavy Electricals Ltd UNIT: HEAVY PLATES AND VESSELS PLANT VISAKHAPATNAM - 530012		DRN	NAME	DATE
			CHD	G.DEMUDU	15.05.19
			APPD	M.V.R.PRASAD	15.05.19
DEPT	ALL DIMENSIONS ARE IN MM	PROJECTION	SCALE	WEIGHT (Kg)	REF TO ASSY / OLD DWG
HT ENGG			N.T.S	3.000	4-04-116-82108
CODE					
320					
TITLE				DRAWING NO :	REV
CHILL BAR-I				4-04-116-U8278	00

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REV	DATE	ALTERED
		CHD & APPD



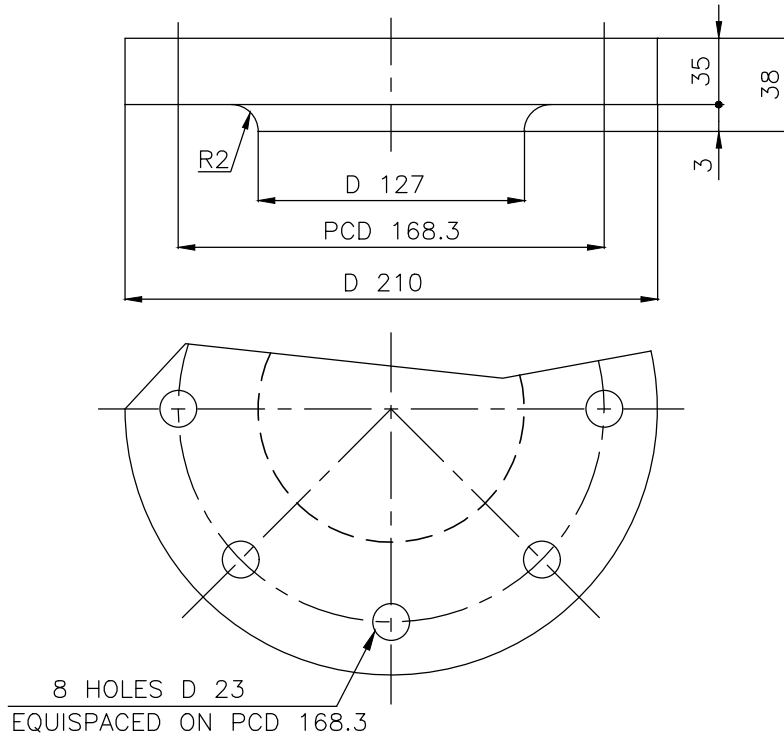
VARIANT NUMBER	DESCRIPTION	STD	15 011 098	A/C/P	UNIT	12.500
			IS 2062 Fe410A			UNIT WEIGHT
			MATERIAL SPECN			QUANTITY

 361-321	Bharat Heavy Electricals Ltd UNIT: HEAVY PLATES AND VESSELS PLANT VISAKHAPATNAM - 530012		DRN	NAME	DATE
			CHD	G.DEMUDU	15.05.19
			APPD	M.V.R.PRASAD	15.05.19
DEPT	ALL DIMENSIONS ARE IN MM	PROJECTION	SCALE	WEIGHT (Kg)	REF TO ASSY / OLD DWG
HT ENGG			N.T.S	12.500	4-04-116-82110
CODE					
320					
TITLE				DRAWING NO :	REV
CURVED PLATE				4-04-116-U8280	00


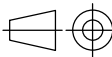
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REV	ALTERED :
01	CHECKED :

12.5/



VARIANT NUMBER	ROUND D250 L=38	STD	15 339 294	C	UNIT	9.700
			SA 105			UNIT WEIGHT
	DESCRIPTION		MATERIAL CODE	A/C		QUANTITY
			MATERIAL SPECN			

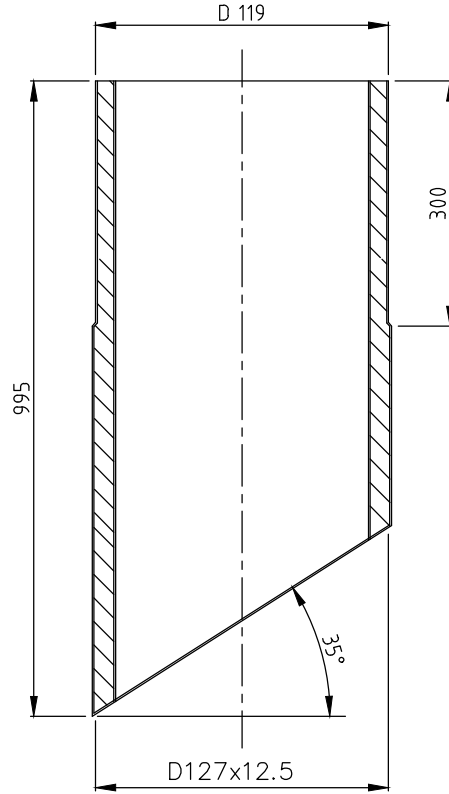
 361-321	Bharat Heavy Electricals Ltd UNIT: HEAVY PLATES AND VESSELS PLANT VISAKHAPATNAM - 530012		DRN	NAME	DATE
			CHD	G.DEMUDU	15.05.19
			APPD	M.V.R.PRASAD	15.05.19
DEPT	ALL DIMENSIONS ARE IN MM	PROJECTION	SCALE	WEIGHT (Kg)	REF TO ASSY / OLD DWG
HT ENGG			N.T.S	9.700	4-04-116-82112
CODE					
320					
TITLE				DRAWING NO :	REV
BLANK FLANGE				4-04-116-U8282	00

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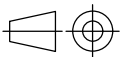
REV	DATE	ALTERED
		CHD & APPD

NOTES:-

- 01. DESIGN PRESSURE : 20 kg/sq.cm(g)
- 02. DESIGN TEMPERATURE : 214°C



VARIANT NUMBER	DESCRIPTION	STD	PIPE D127X12.5	15 182 183	C	UNIT	35.114
			L = 995	SA 106 Gr.B			UNIT WEIGHT
			MATERIAL CODE	A/C/P			QUANTITY
			MATERIAL SPECN				

 361-321	Bharat Heavy Electricals Ltd UNIT: HEAVY PLATES AND VESSELS PLANT VISAKHAPATNAM - 530012		DRN	NAME	DATE
			CHD	G.DEMUDU	15.05.19
			APPD	M.V.R.PRASAD	15.05.19
DEPT	ALL DIMENSIONS ARE IN MM	PROJECTION	SCALE	WEIGHT (Kg)	REF TO ASSY / OLD DWG
HT ENGG			N.T.S	35.114	4-04-116-82105
CODE					
320					
TITLE				DRAWING NO :	REV
FEED PIPE				4-04-116-U8321	00