



GOVERNMENT OF INDIA
DEPARTMENT OF ATOMIC ENERGY
BHABHA ATOMIC RESEARCH CENTRE
VISAKHAPATNAM



Computational Analysis Division

Ref: CAD/HEDM/WO/IND/22-23/23

Date: 02/01/2023

Subject: Notice inviting tender for;
“Fabrication and supply of Target mounts with X & Z linear translation and Z-rotation”
(See Annexure-I)

1. Quotations are invited for minor fabrication job as per details described below.
2. **Scope of work:** See details in Annexure-I.
3. **General guidelines for submitting tender**
 - You shall send your offer in a **sealed envelope** indicating delivery period, price inclusive of taxes and other relevant information by speed post to:

Head,
CAD, Computational Analysis Division
Bhabha Atomic Research Centre
Village: Maduturu (Sub: P.O.)
Near Nagavaram Junction,
Gajuwaka-Yellamanchilli Highway
Atchutapuram, Visakhapatnam
Andhra Pradesh- 531011

(Kind Attention: Rahulnath P.P., SO/D, CAD, 0891-283-2149/ 8985875318)

- Quotation shall reach us on/or before **16/01/2023 by Speed Post/Courier/ Only.**
- On top left corner of the envelope please indicate Quotation for- **“Fabrication and supply of Target mounts with X & Z linear translation and Z-rotation”** And due date 16/01/2023
- Overwriting, scratching etc. must be avoided in the quotation. Rewriting the whole figure shall carry out any alteration in the figure. The authorized person from the firm shall countersign such figure.
- The delivery period mentioned in the quotation shall be strictly adhered to. If the contractor fails to supply and secure extension of delivery date before effecting delivery of the supply against the contract, acceptance of such item by the purchaser will in no way prejudice the right of the purchaser to levy liquidated damage nor will it be entitled to the contractor for payment of statutory levies that comes into force after the expiry of the delivery date.
- **Minimum Guarantee/Warranty period** of the material and workmanship shall be **One Year.**
- **Supplier shall mention clearly the PAN /TAN no. on quotation.**
- **GST number shall be clearly mentioned on Quotation.**
- All the charges and taxes shall be mentioned clearly.
- You may contact us for any clarification before **16/01/2023** (Shri. Rahulnath P.P., 0891-2832149,8985875318, rahulnath@barc.gov.in)

4. **Rates:**

As per Scope of Work.

5. **Place of Delivery/Work:**

Address: Stores Officer, Bhabha Atomic Research Centre, Near Nagavaram Junction, Gajuwaka-Yellamanchilli Highway, Maduturu PO, Visakhapatnam, Andhra Pradesh- 531011.

5. **PAYMENT TERMS:**

- a. Part payment/Advance or against delivery cannot be made.
- b. Payment will be made only after satisfactory completion of work and on production of (along with Delivery Challan):
 - i. Bill/Invoice containing Location of supply, separate tax components along with PAN and GSTN numbers.
 - ii. Advance Stamped Receipt.
 - iii. Bank Account No, Bank and Branch name with IFSC code.
 - iv. Undertaking stating that GST has been promptly deposited with the authorities
- c. It may be noted that:
 - i. Income tax @2% will be deducted from your bill.
 - ii. TDS (under GST) will be deducted as applicable from your bill of taxable goods and/or services, where the total value of such supply exceeds 2.50lakh.
 - iii. Declaration confirming filing of Income Tax Return from immediate two preceding years, in accordance with Section 206 AB of the Income Tax Act 1961, has to be submitted in the prescribed proforma along with necessary acknowledgements in support of declaration. In case the aforesaid declaration is not submitted, TDS/TCS shall be deducted at higher rates as instructed under the provisions of Income Tax Act.

6. **CONFIDENTIALITY CLAUSE:**

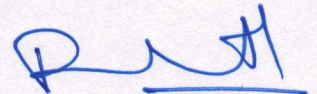
No, party shall disclose any information to any third party, concerning the matters under this contract generally. In particular, any information identified as "Proprietary" in nature by the disclosing party shall be kept strictly confidential by the receiving party and shall not be disclosed to any third party without the prior written consent of the original disclosing party.

This clause shall apply to the sub-contractors, consultants, advisers or the employees engaged by a party with equal force.

"Restricted information "categories under section 18 of the Atomic Energy Act,1962 and "Official Secrets" under section 5 of the official secrets act, 1923.

Any contravention of the above-mentioned provisions by any contractor, sub-contractor, consultant, adviser or the employees of a contractor will invite penal consequences under the aforesaid legislation.

Prohibition against use of BARC's name without permission for publicity purposes. The contractor or sub-contractor, consultant, adviser or the employees engaged by the contractor shall not use BARC's name for any publicity purpose through any public medial like press, radio, T.V. or Internet without the prior written approval of BARC.



(Rahulnath P.P.)

SO/D, CAD

Phone: 0891-2832149,

Email: rahulnath@barc.gov.in

Scope of work

Fabrication and supply of Target mounts with X & Z linear translation and Z-rotation

Item to be fabricated;

Sl. No.	Item	Quantity
01	Target Mount Assembly	04Set.

The following components are the parts of target mount assembly;

Sl. No.	Drg. No.	Item Description(Material)	Quantity per set
1.	01	Target Mount(C45)	01 No.
2.	02	Rotating Disc(C45)	01No.
3.	03	Rotating plate base (C45)	01No.
4.	04	Vertical Slider (EN19)	01No.
5.	05	Square box (EN19)	01No.
6.	06	Vertical slider nut (EN19)	05Nos.
7.	07	Support Disc (C45)	01No.
8.	08	Rack base (C45)	01No.
9.	09	Horizontal shaft(EN19)	01No.
10.	10	Double lock (EN19)	02Nos.
11.	11	Wheel (EN19)	02Nos.
12.	12	Side plate (C45)	02Nos.
13.	13	Base Mount (C45)	01No.
14.	14	Target Flange (C45)	01No.
15.	15	Vertical assembly	Assembly
16.	16	Horizontal Assembly	
17.	17	Assembly of target mount	

Brief details of fabrication work need to be carried out are given below;

1. Target Frame (Drg. No.01)

- a. Vacuum Chamber: Material: C45
- b. Overall Size:250x250x150mm
- c. Square slot of 190x190has to be made up to a length of 130mm.
- d. 150x150mm square slot has to be made in 20mm thickness.
- e. 2x2mm groove has to be made as mentioned in the drawing.
- f. **Tolerance** has to be as mentioned in the drawing.
- g. The component has to be made in single piece.

2. Rotating Disc (Drg. No.2)

- a. Material: C45.
- b. Overall Dimensions: Dia.340X15mm
- c. 40° Slot has to be provided along R145 and R155 radius as shown in drawing.They should be diametrically opposite to each other.
- d. **Tolerance** has to be maintained as per drawing.

3. Rotating plate base (Drg. No.3)

- a. Material: C45
- b. This component should have a square base of 420x420mm of thickness 40mm. Below which a taper component of length 40mm has to be made.
- c. Taper starts at 270mm from base and ends at 80mm.
- d. Slot of 340mm diameter and thickness 15mm has to be made on the square surface.
- e. Surface finish of 0.01mm has to be maintained as mentioned in the drawing.

4. Vertical slider (Drg.No.04)

- a. Material: EN19
- b. Overall length: 450mm.
- c. ACME thread of 12mm pitch has to be made over a length of 250mm.
- d. 70mm cylindrical portion has to be maintained free of thread.
- e. Square section of 80x80mm has to be then followed over a length of 130mm.

5. Square Box (Drg.No.05)

- a. Material: EN19
- b. Overall size 100x100x260mm.
- c. Square slot of 80x80x230mm has to be made as shown.
- d. **Perpendicularity** has to be maintained within 0.05mm.

6. Vertical Slider Nut (Drg.No.06)

- a. Material: EN19
- b. Overall length: 130mm.
- c. ACME thread has to be made matching with the vertical slider.
- d. Wheel arrangement has to be made as shown in drawing.

7. Support Disc (Drg.No.07)

- a. Material: C45
- b. Overall dimension Dia.190mmX40mm length.
- c. 81mm bore has to be made as shown.

8. Rack Base (Drg.No.08)

- a. Material:C45
- b. Block size 140x220x35mm.
- c. ACME thread of 4mm pitch has to be made through the centre of 220X35mm over 140mm length.
- d. **Straightness** of hole has to be ensured within 0.05mm.
- e. Surface finish of 5microns has to be maintained on the bottom surface as shown in drawing.
- f. **Tolerance** has to be maintained as per drawing.

9. Horizontal Shaft (Drg.No.09)

- a. Material: EN19
- b. Overall dimension: Length 510.
- c. ACME thread of 4mm pitch has to be made over 470mm length as mentioned in the drawing.
- d. 20mm length has to be maintained free of threading.
- e. 10mm Hole has to be made as mentioned in the drawing.
- f. Key/Pin of 10mm has to be inserted in the hole for locking purpose.

10. Double lock (Drg.No.10)

- g. Material: EN19
- h. Overall dimension: Dia.30mm X36mm length.
- i. Bore of Dia.16mmX18mm and Dia.20mmX18mm has to be made as shown.
- j. Hole of 10mm Diameter is to be made for key/pin insert.
- k. 2Nos. of double lock are to be provided per set of target mount.

11. Wheel (Drg.No.11)

- a. Material: EN19
- b. Overall Diameter-80mm.
- c. Shaft length of 20mm has to be given as mentioned.
- d. The shaft will get assembled with horizontal threaded shaft by a coupling double lock arrangement.
- e. Key/Pins must be used to secure the horizontal shaft and wheel shaft in position.
- f. 2Nos. of wheels are to be provided per set of target mount.

12. Side plate (Drg.No.12)

- a. Material: C45
- b. Overall Size: 320X18mm
- c. Holes of 10.2mm are to be made as mentioned in the drawing.
- d. Slot of 47mm has to be made for bearing sitting.
- e. SKF-NU204ECP bearing has to be push fitted in the slot on side plate.
- f. 02Nos. of side plate are to be made for attaching on either side of base mount (Drg.No.13).
- g. Counter sink holes are to be made for attaching plate.

13. Base Mount (Drg.No.13)

- a. Material:C45
- b. Overall size of block: 550 X 320 X 100mm.
- c. Slot of 220x35x550mm has to be made as shown in drawing.
- d. M10 tap holes are to be provided for attaching the side plates. Lngth-65mm.
- e. Other holes of 10.2mm diameter are to be provide on the Top surface as mentioned in the drawing.

14. Target Flange (Drg.No.14)

- a. Material: C45
- b. Overall dimension: 250x250x50mm.
- c. Through slot of 150x150mm has to be made.
- d. Target flange has to mate with target frame(Drg.No.1)

15. Base Mount (Drg.No.15)

- f. Material:C45
- g. Overall size of block: 550 X 320 X 100mm.
- h. Slot of 220x35x550mm has to be made as shown in drawing.
- i. M10 tap holes are to be provided for attaching the side plates. Lngth-65mm.
- j. Other holes of 10.2mm diameter are to be provided on the Top surface as mentioned in the drawing.

Assembly of Target Mount

- a) Assembly drawings are given in Drg.No.16, 17 & 18.
- b) SKF-NJ2220ECP and SKF-NU204ECP or equivalent are to be used wherever mentioned.
- c) Only TIG welding has to be used wherever mentioned. See Drg.No.16 for welding joints.
- d) Welds 1-6 are mentioned in Drg.No.16. Full welding has to be done.
- e) See Drg.No.16 for vertical assembly and Drg.No.17 for horizontal Assembly.
- f) Final assembly is given in Drg.No.18.
- g) Proper grooves have to be made for welding.
- h) Perpendicularity must be ensured before and after welding.
- i) Smooth operation of X-Z directions must be ensured.
- j) All fasteners for the assembly have to be provided.
- k) Anodized fasteners may be used for the purpose.
- l) Tolerance must be strictly adhered to.

Note to the vendor

- a. **Pre-Despatch inspection (PDI):** Pre-despatch inspection will be done for components and assembly. Items found unsatisfactory should be repaired/replaced. Only materials accepted during PDI has to be shipped. Materials without pre-despatch inspection will not be accepted.
- b. **Mechanical Testing of materials:** Test certificate for all the materials used in the fabrication should be provided. Stress Vs Strain Curves indicating Yield Stress, Ultimate stress, Young's Modulus and strain to failure must be mentioned. The values obtained should be comparable to the standard values of materials.

- c. Inspection will be done before and after welding process and during packing stage.
- d. All work fitting, welding etc. must be done at vendor's premises only.
- e. All dimensions are to be strictly adhered to.
- f. Tolerance, straightness, parallelity, perpendicularity etc. has to be maintained as mentioned in the drawing.
- g. **All fasteners** for the assembly have to be provided. With additional spares as necessary.
- h. **Proper lubrication** of threaded components must be provided.
- i. **TIG welding** has to be done wherever applicable.
- j. The quality of workmanship shall conform to high engineering standards and strictly as per instructions of engineer in charge (EIC) of job.
- k. **Delivery period:** Delivery period must be preferably within 12 Weeks.

GENERAL REQUIREMENTS:

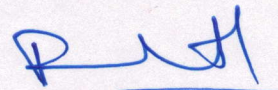
- a) The vendors are encouraged to hold prior discussions with the indentor for any clarifications.
- b) Finished products should be delivered to the address given below.

Address:

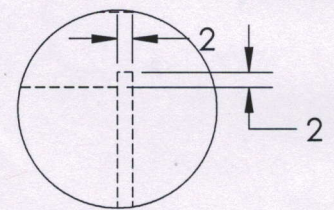
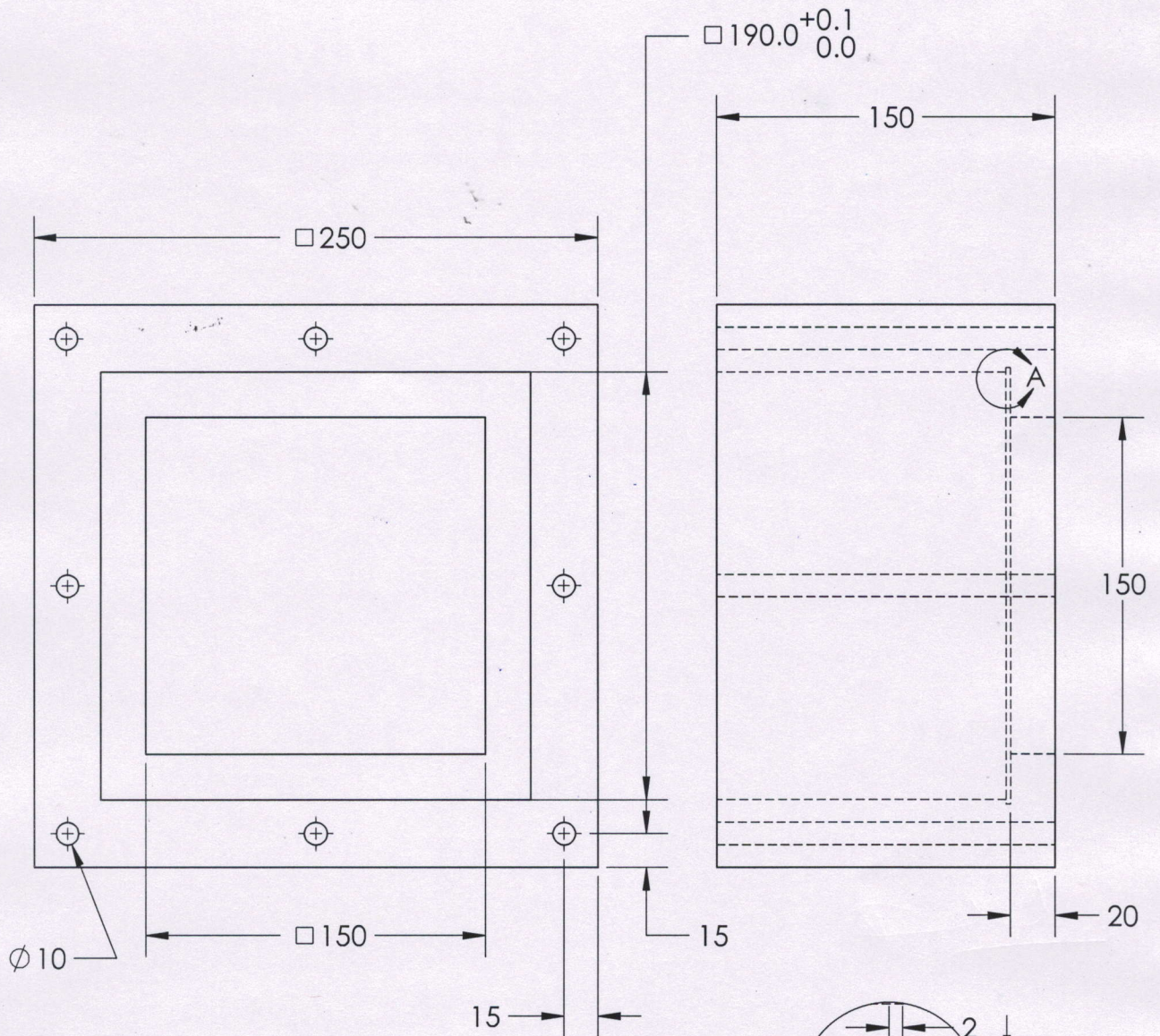
"Stores Officer, Bhabha Atomic Research Center, Near Nagavaram Junction, Nagavaram-Atchutapuram Highway, Visakhapatnam, Andhra Pradesh- 531011"

- c) The cost of transportation/delivery if any should be mentioned in the quotation.
- d) No part payment will be done for any part delivery.
- e) It is mandatory to mention prices of **each item separately**.
- f) Single order will be placed for all the above items and no partial work is permitted.
- g) Minimum Guarantee/**Warranty period** of the raw material and workmanship shall be **One Year**.
- h) **Contact Persons:**

a) **Shri. Rahulnath P.P.**, Computational Analysis Division, BARC
Contact details: rahulnath@barc.gov.in
Phone: 0891-283-2149, 8985875318



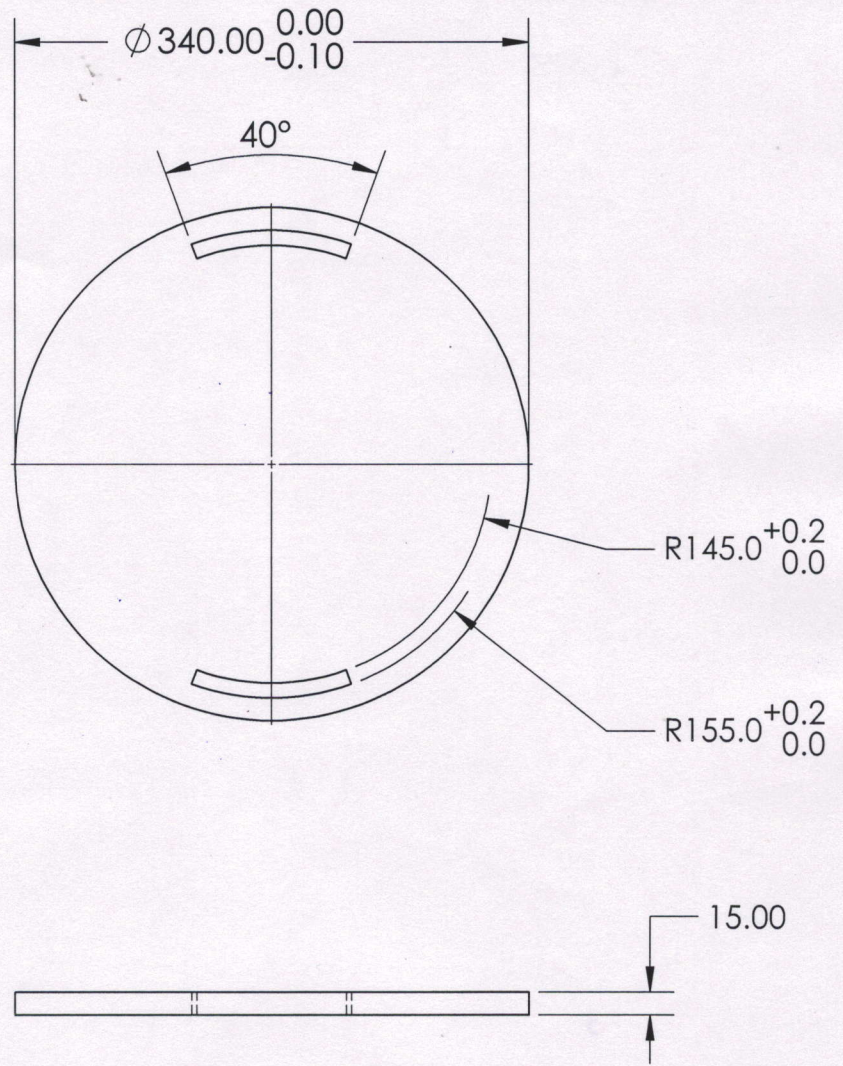
(Rahulnath P.P.)
SO/D, CAD



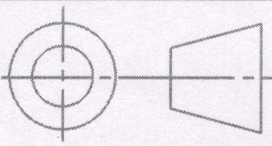
DETAIL A
SCALE 1 : 1

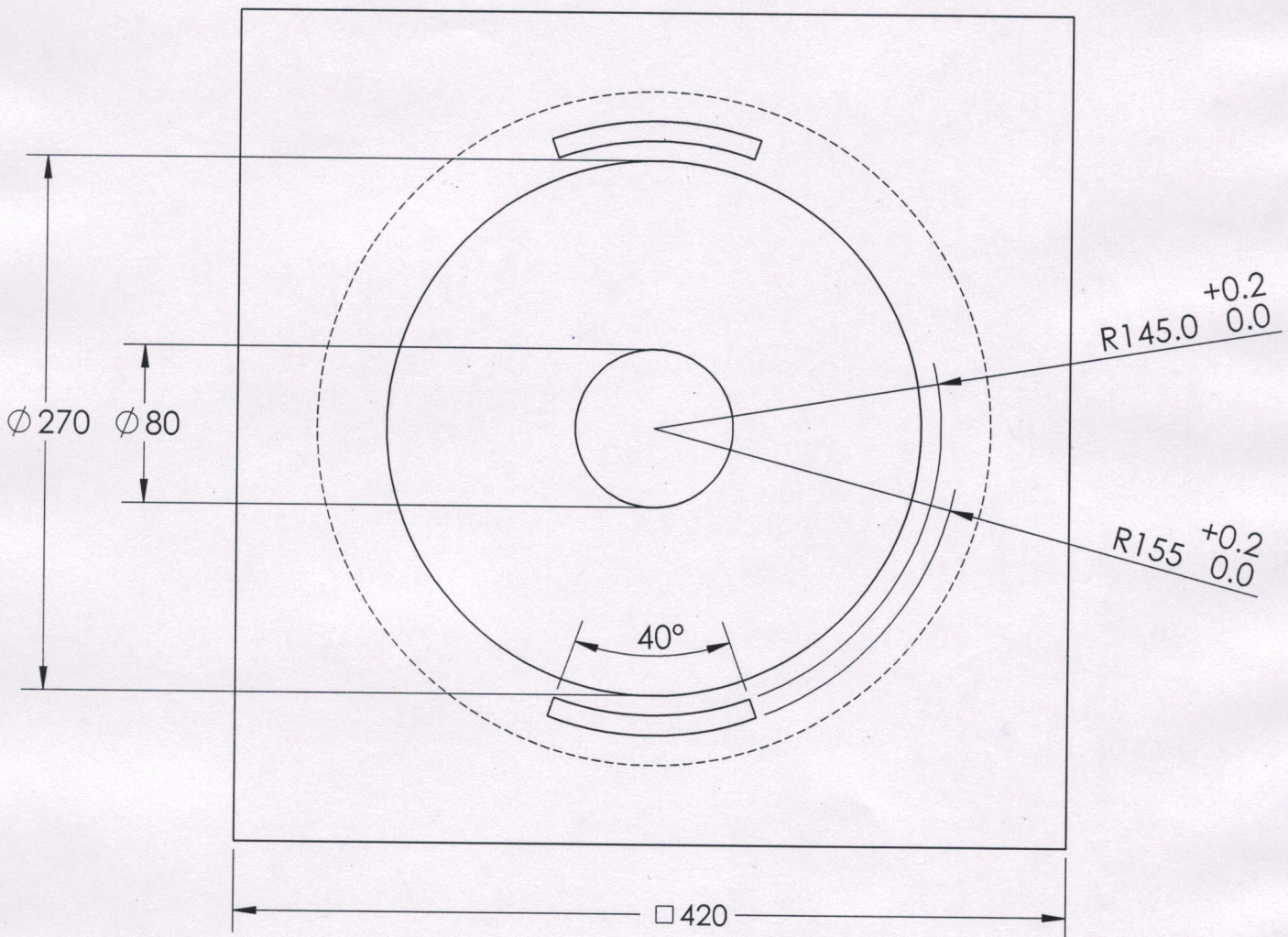
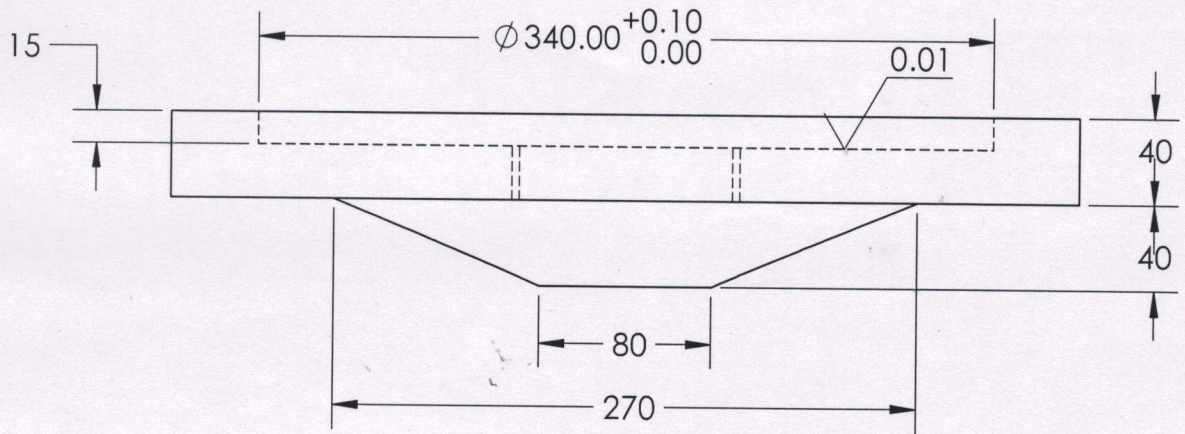
Target Frame

DRG. No.:01		All dimensions are in mm		
Quantity:01No.	SCALE:	Material: C45		
DATE:16/12/2022	MF:22-23/23	NAME & Sign.:Rahulnath		



Rotating Disc

DRG. No.:02	All dimensions are in mm		
Quantity:01No.	SCALE:	Material: C45	
DATE:16/12/2022	MF:22-23/23	NAME & Sign.:Rahulnath	<i>Rahulnath</i>



Rotating Plate Base

DRG. No.:03

All dimensions are in mm

Quantity:01No.

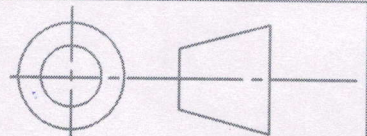
SCALE:

Material: C45

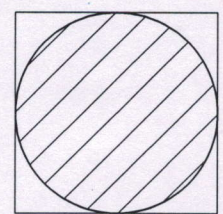
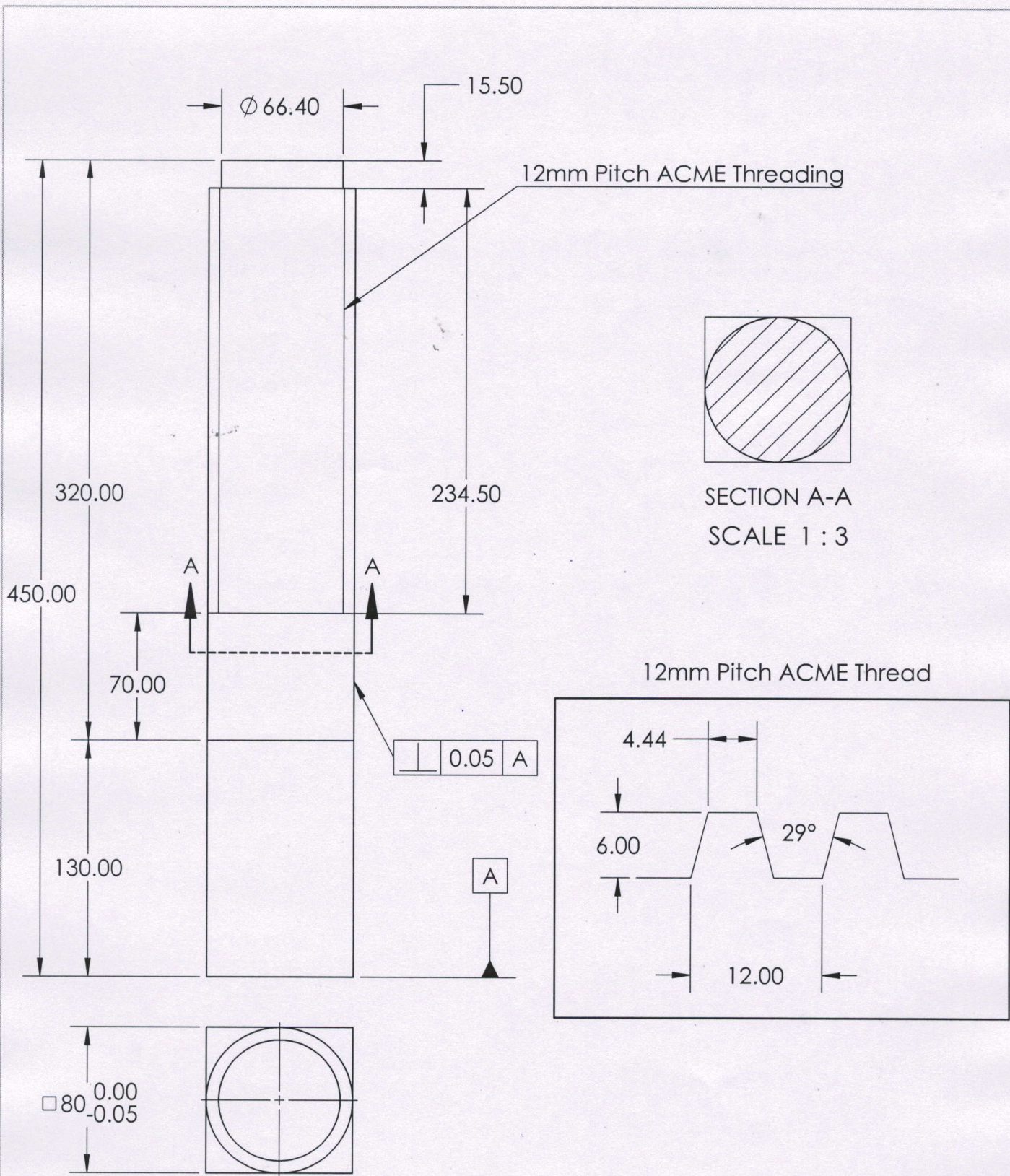
DATE:16/12/2022

MF:22-23/23

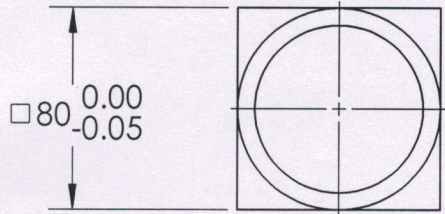
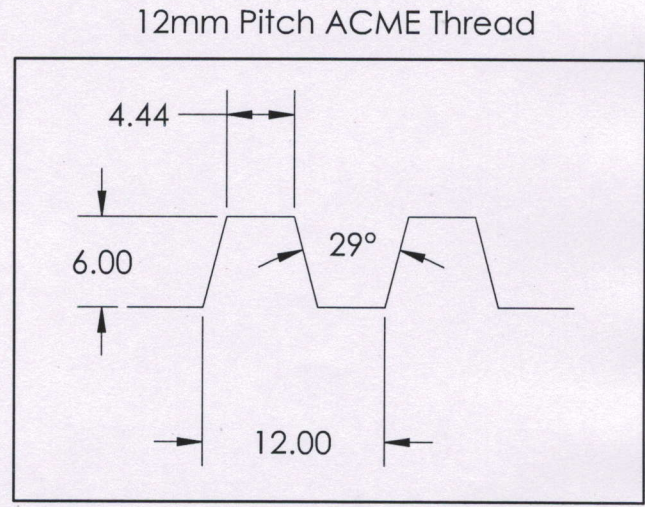
NAME & Sign.:Rahulnath




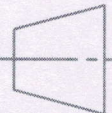
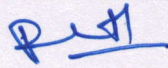
Rahulnath

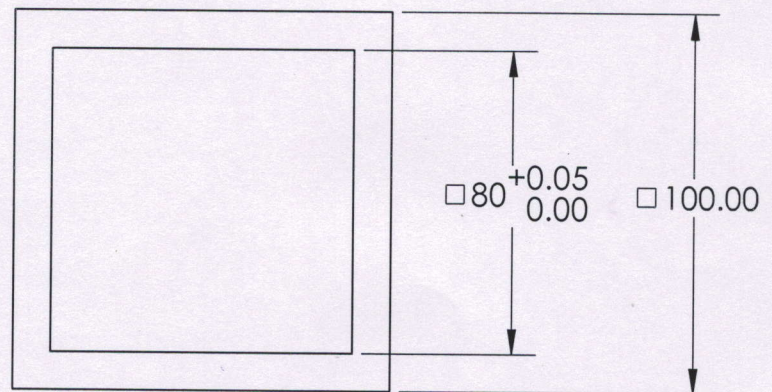
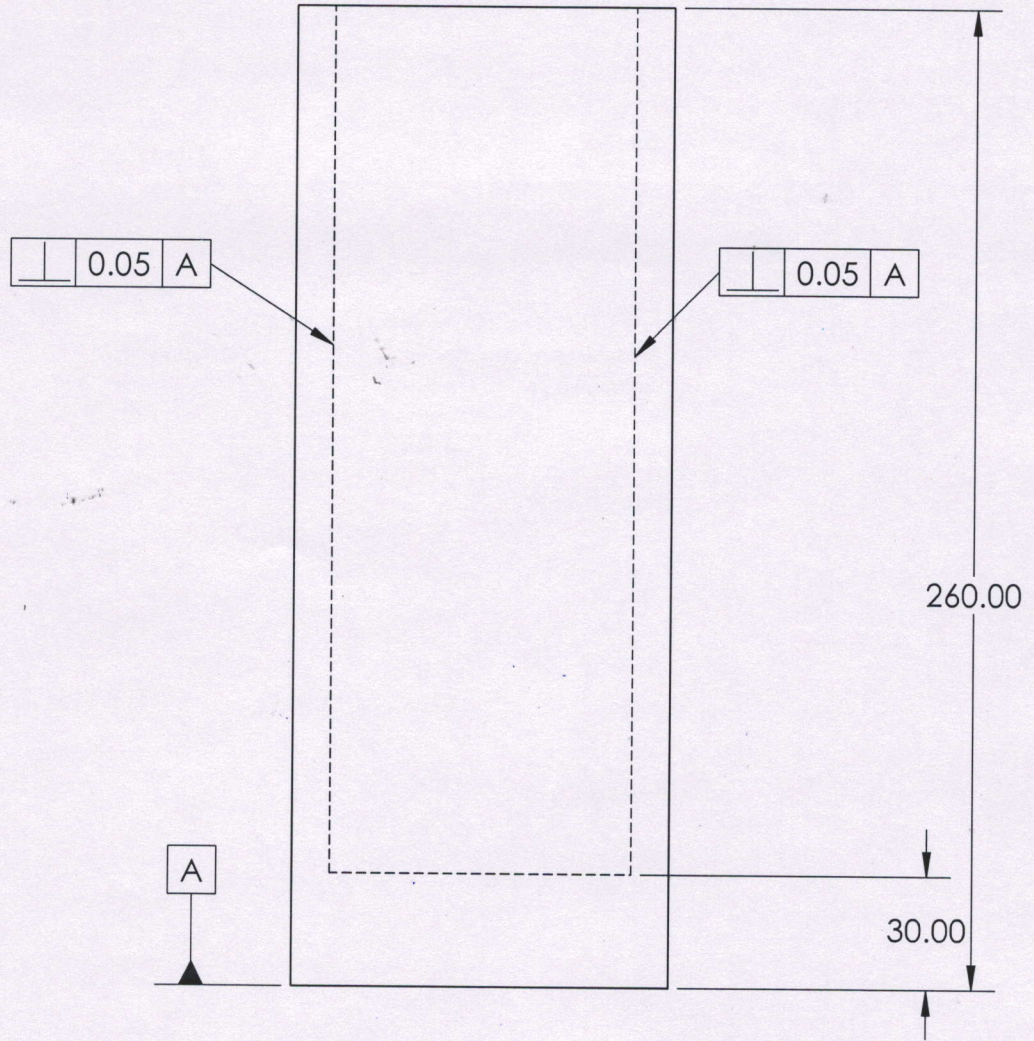


SECTION A-A
SCALE 1 : 3



Vertical Slider

DRG. No.:04	All dimensions are in mm		 
Quantity:01No.	SCALE:	Material: EN19	
DATE:16/12/2022	MF:22-23/23	NAME & Sign.:Rahulnath	



Square Box

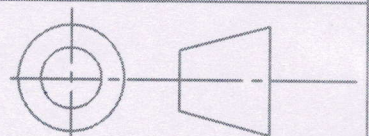
DRG. No.:05

All dimensions are in mm

Quantity:01No.

SCALE:

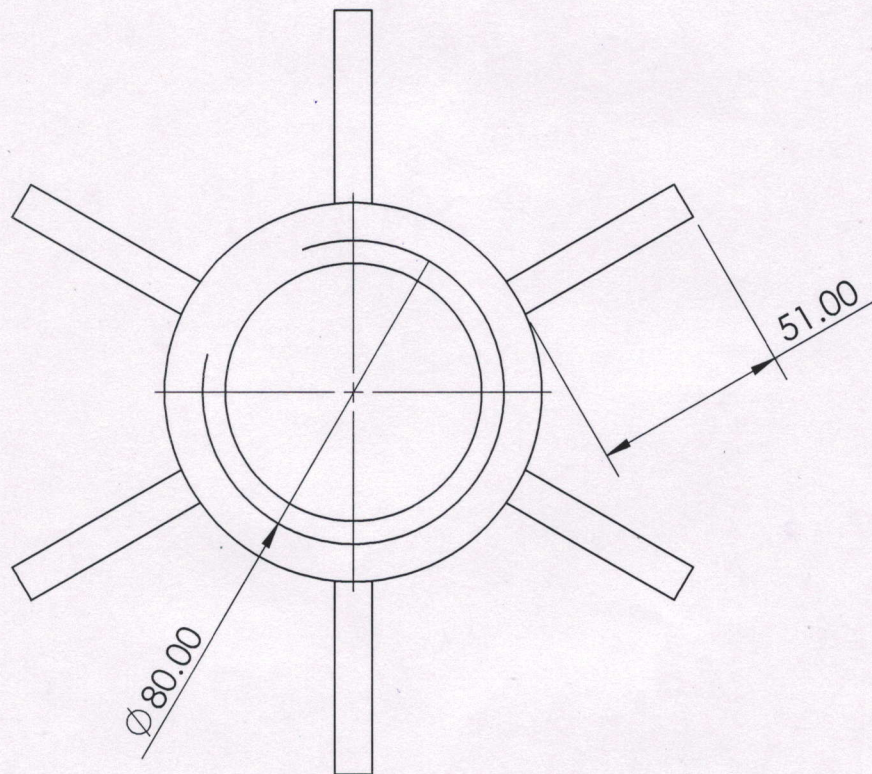
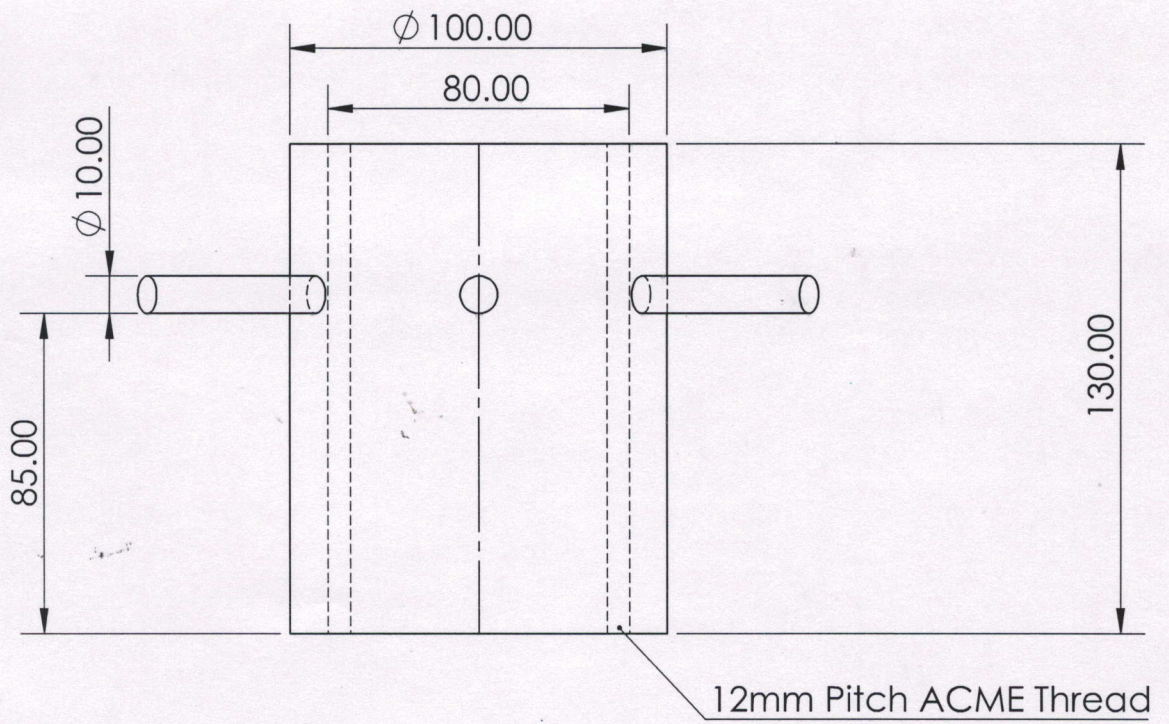
Material: EN19



DATE:16/12/2022

MF:22-23/23

NAME & Sign.:Rahulnath



Vertical Slider Nut

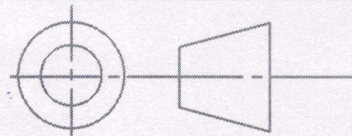
DRG. No.:06

All dimensions are in mm

Quantity:01No.

SCALE:

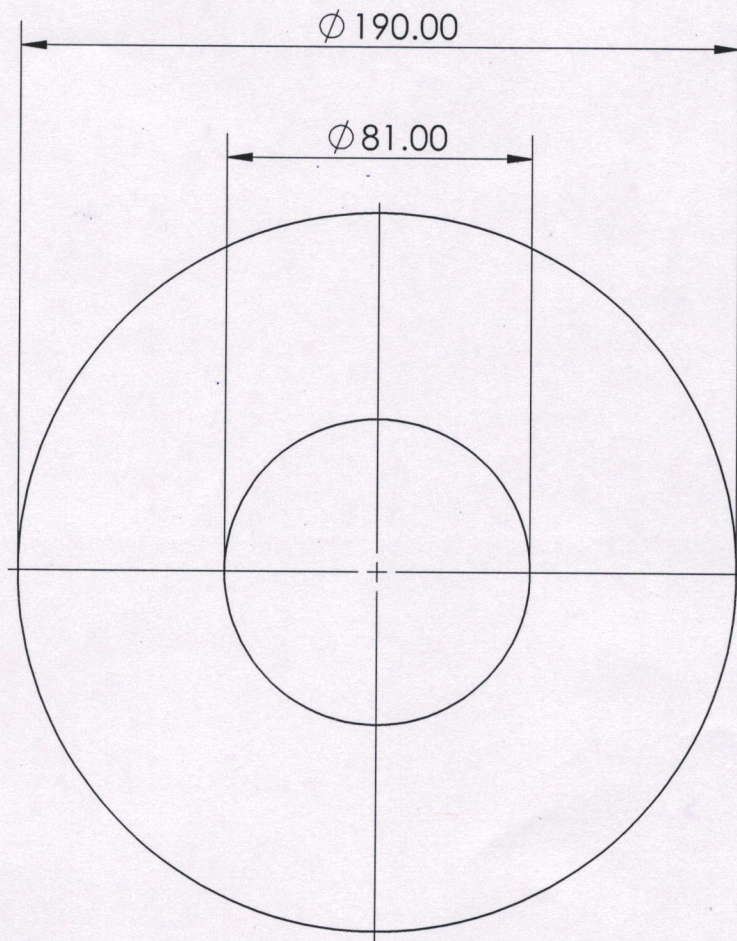
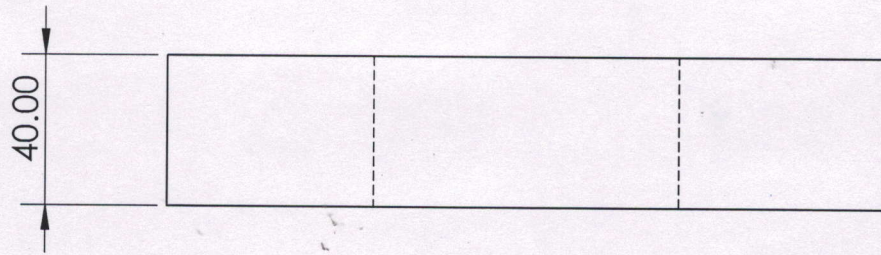
Material: EN19



DATE:16/12/2022

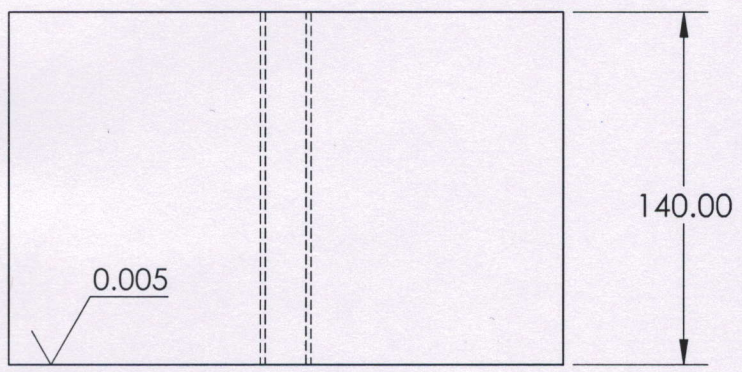
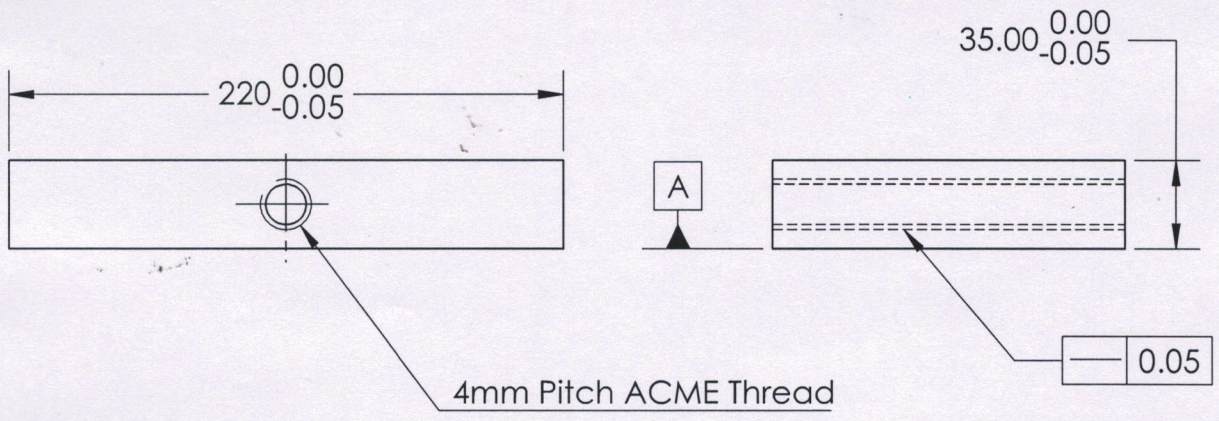
MF:22-23/23

NAME & Sign.:Rahulnath



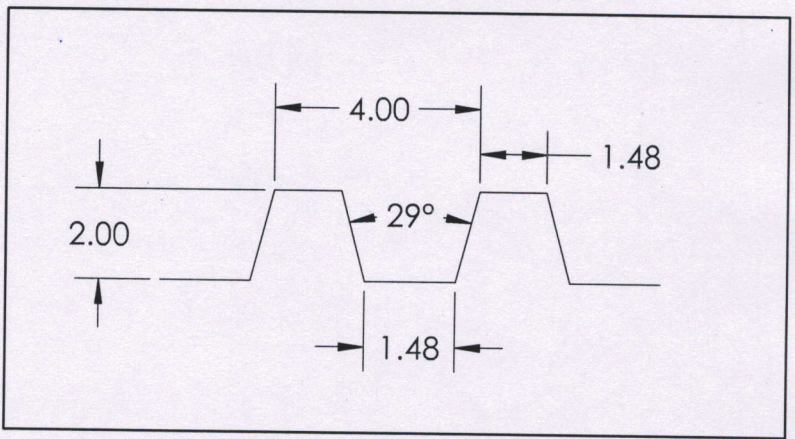
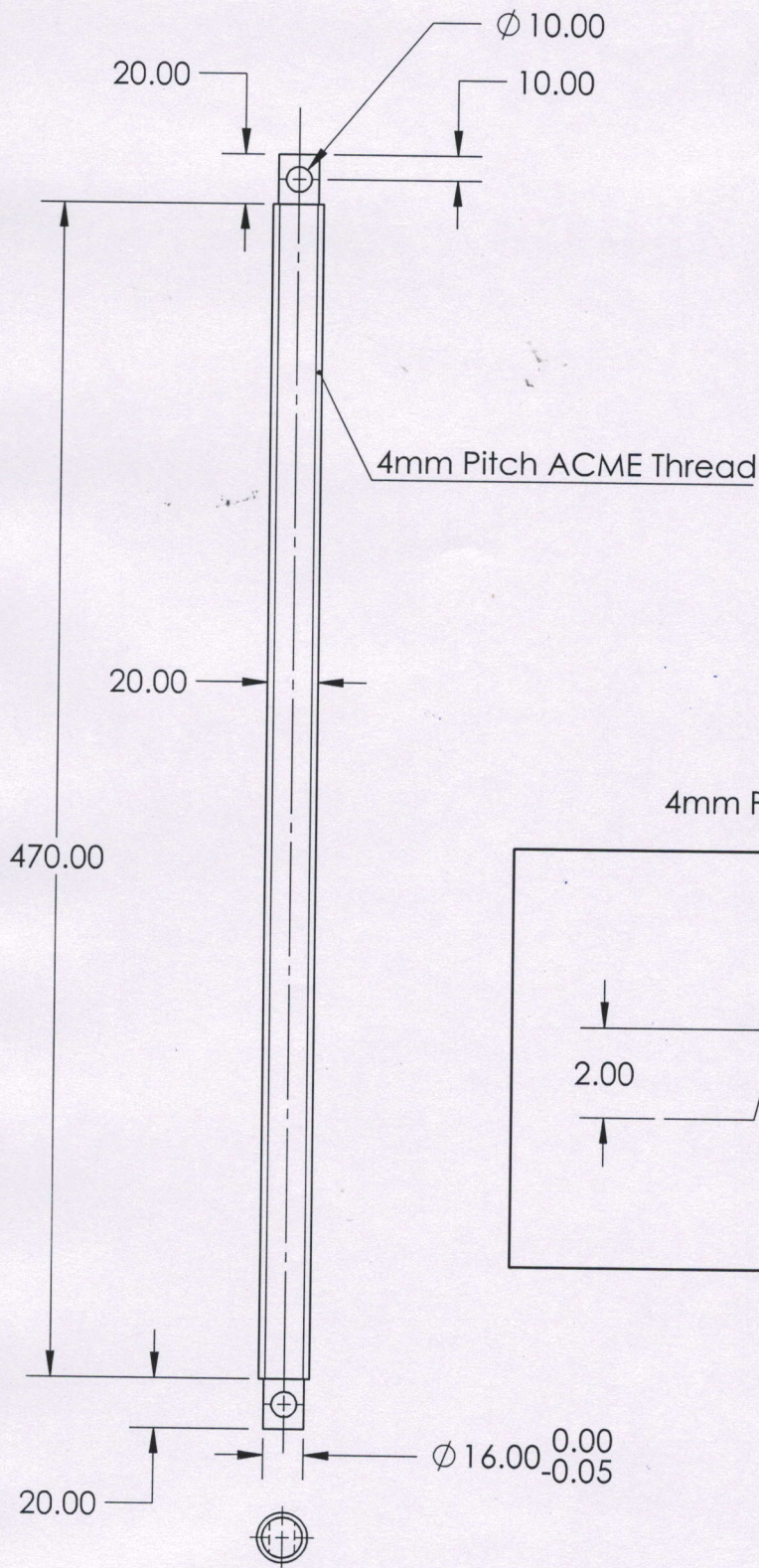
Support Disc

DRG. No.:07		All dimensions are in mm		
Quantity:01No.	SCALE:	Material: C45		
DATE:16/12/2022	MF:22-23/23	NAME & Sign.:Rahulnath		



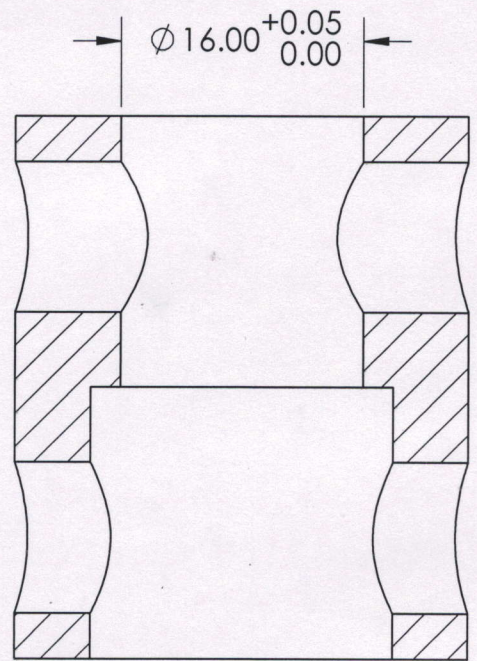
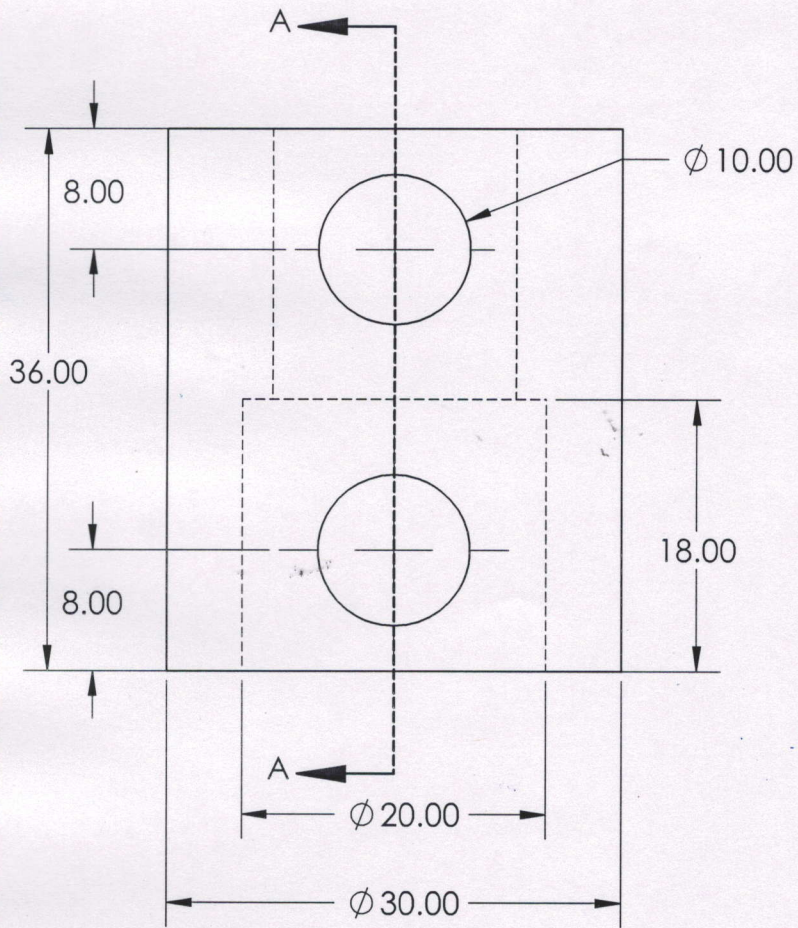
Rack Base

DRG. No.:08	All dimensions are in mm		
Quantity:01No.	SCALE:	Material: C45	
DATE:16/12/2022	MF:22-23/23	NAME & Sign.:Rahulnath	

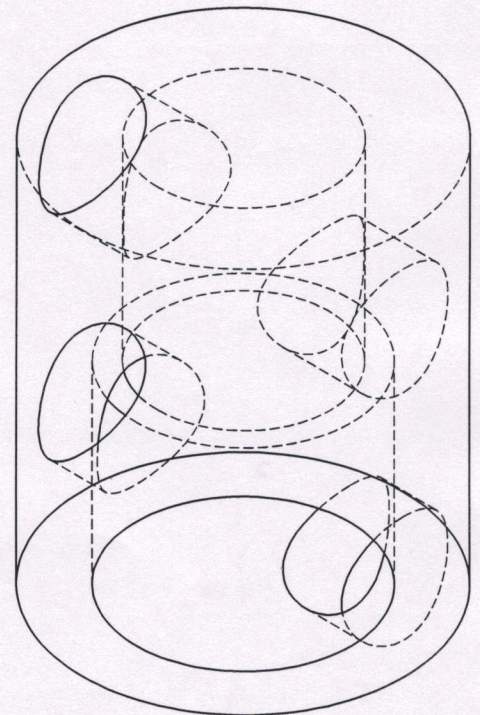
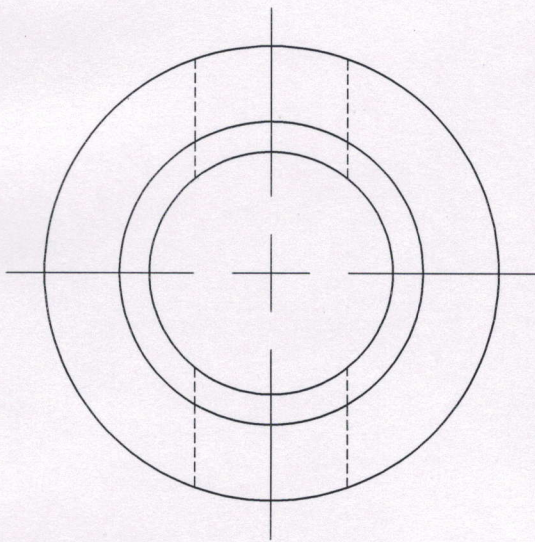


Horizontal Shaft

DRG. No.:09	All dimensions are in mm		
Quantity:01No.	SCALE:	Material: EN19	
DATE:16/12/2022	MF:22-23/23	NAME & Sign.:Rahulnath	



SECTION A-A



Double Lock Nut

DRG. No.:10

All dimensions are in mm

Quantity:02No.

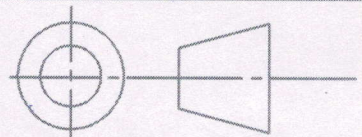
SCALE:

Material: EN19

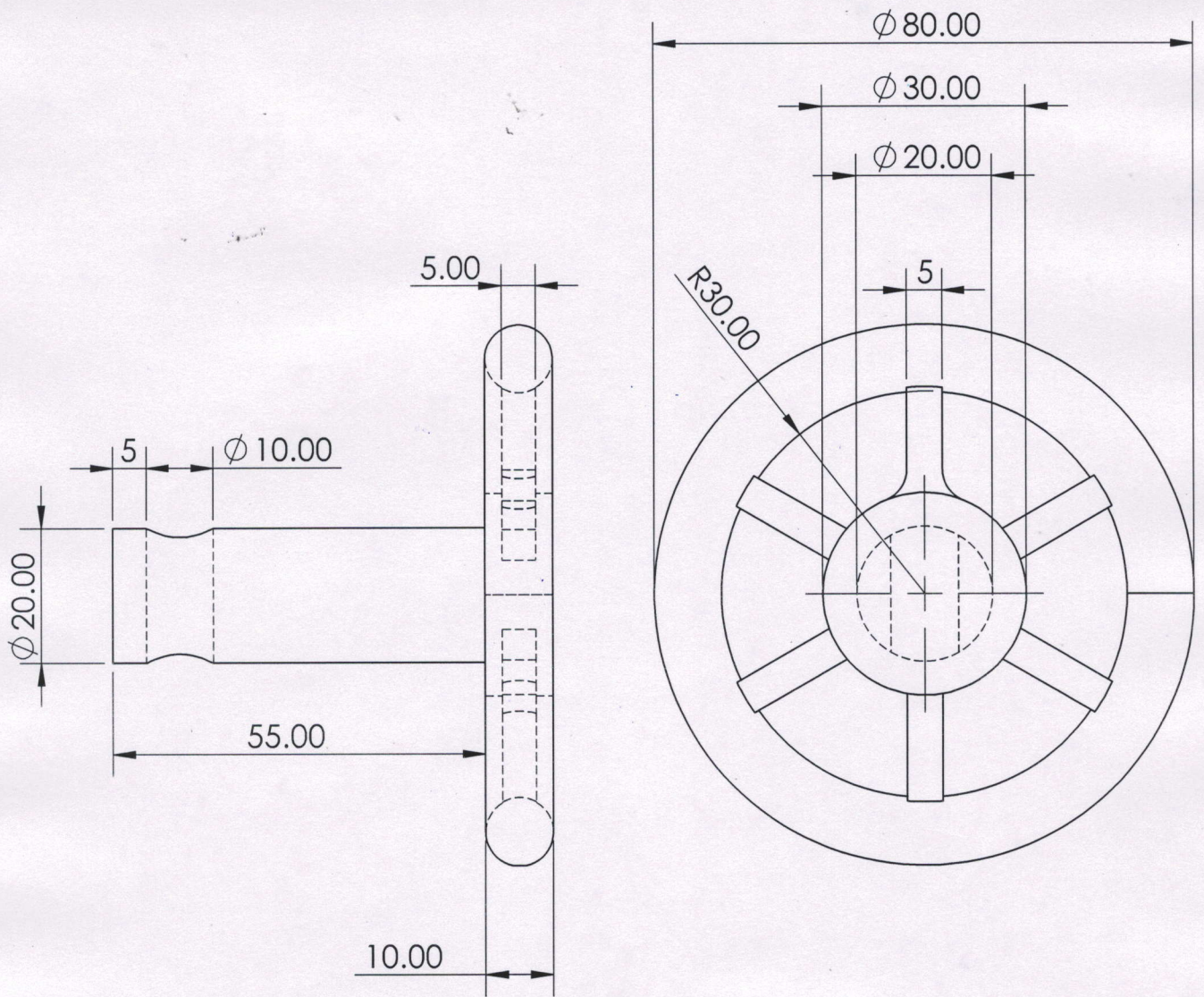
DATE:16/12/2022

MF:22-23/23

NAME & Sign.:Rahulnath

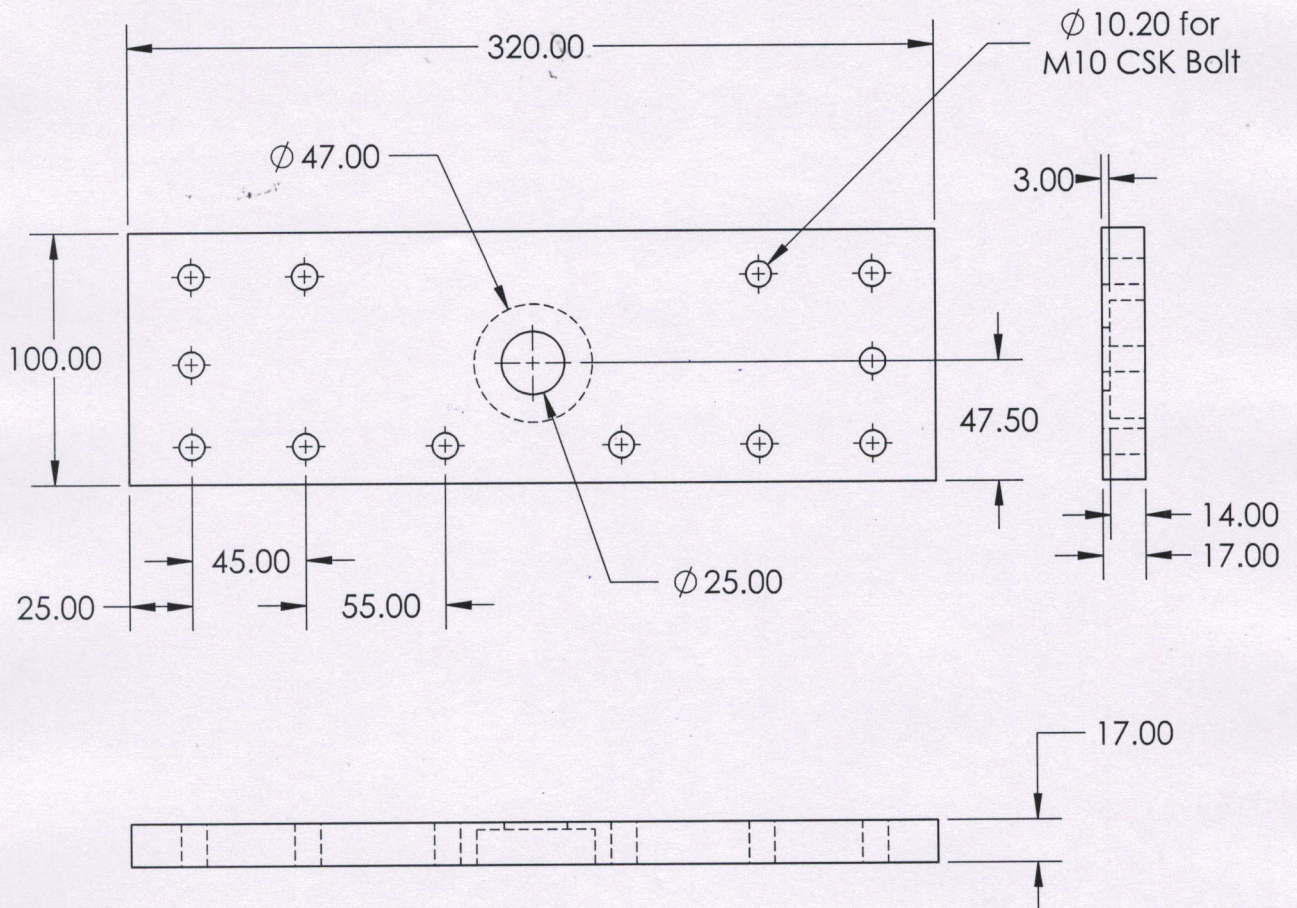


R. Nath



Wheel

DRG. No.:11	All dimensions are in mm		
Quantity:02No.	SCALE:	Material: EN19	
DATE:16/12/2022	MF:22-23/23	NAME & Sign.:Rahulnath	



Side Plate

DRG. No.:12

All dimensions are in mm

Quantity:02No.

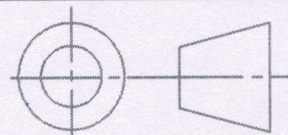
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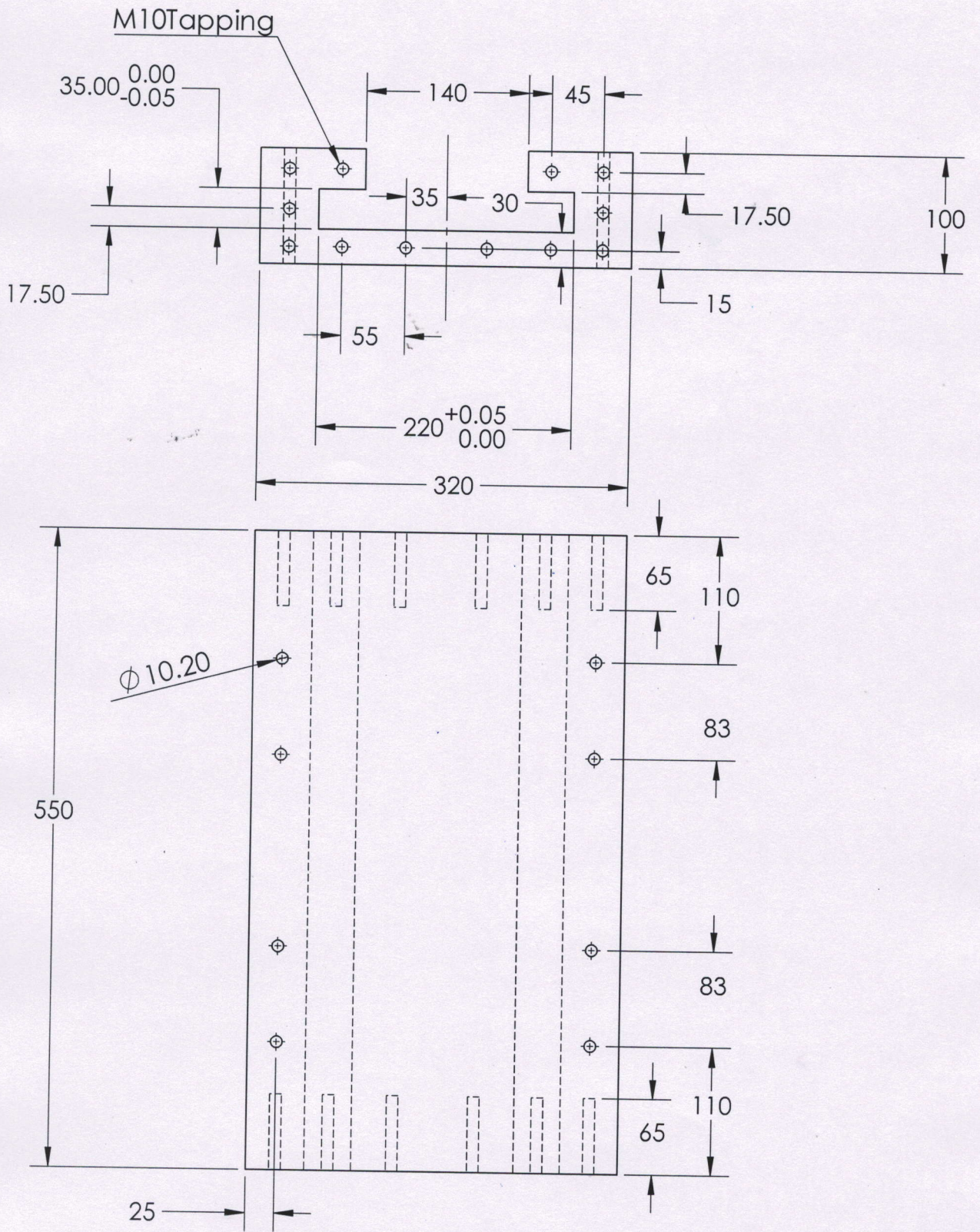
Material: C45

DATE:16/12/2022

MF:22-23/23

NAME & Sign.:Rahulnath





Base Mount

DRG. No.:13

All dimensions are in mm

Quantity:01No.

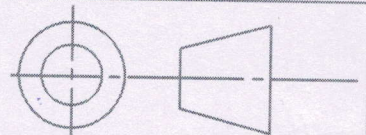
SCALE:

Material: C45

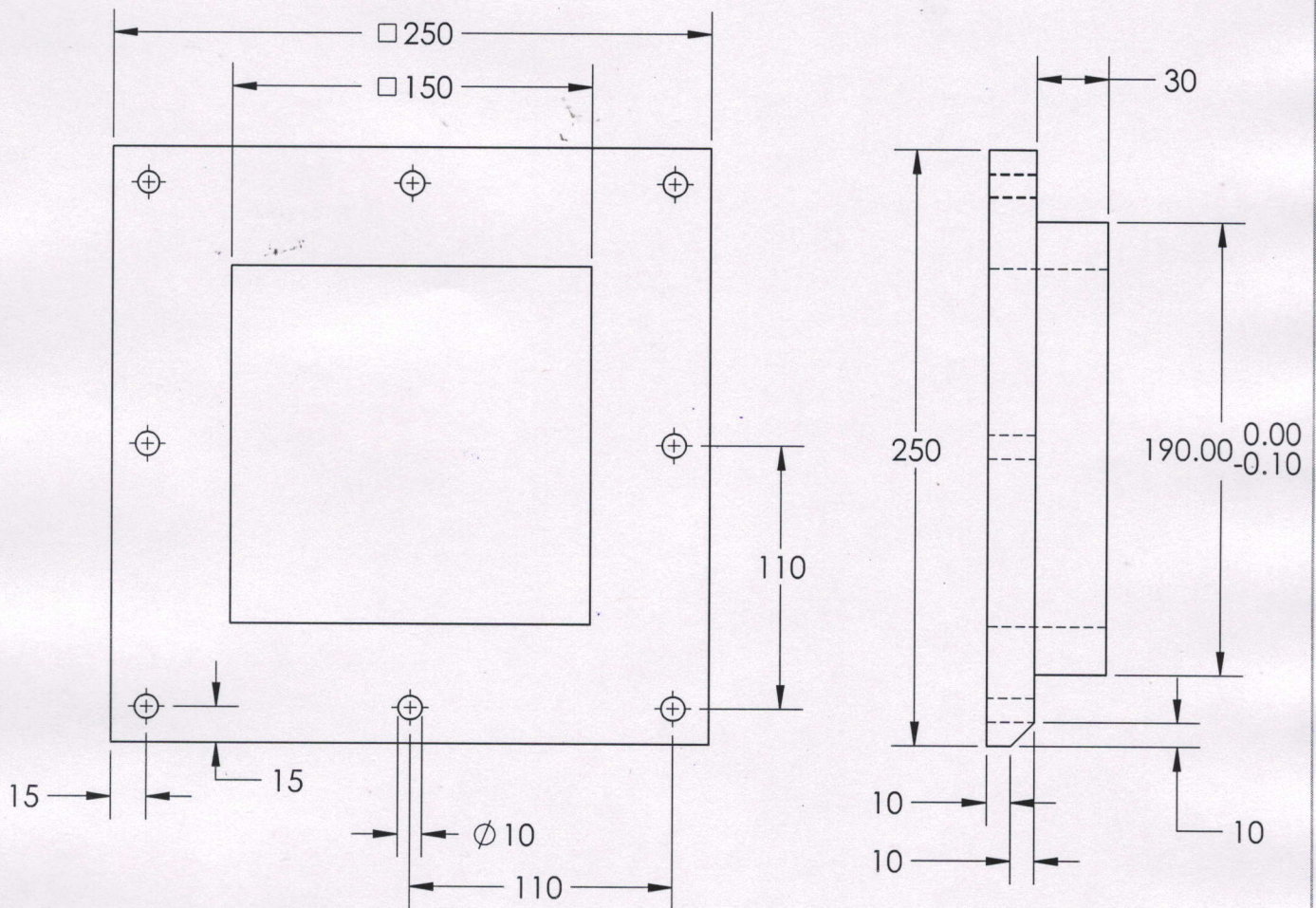
DATE:16/12/2022

MF:22-23/23

NAME & Sign.:Rahulnath

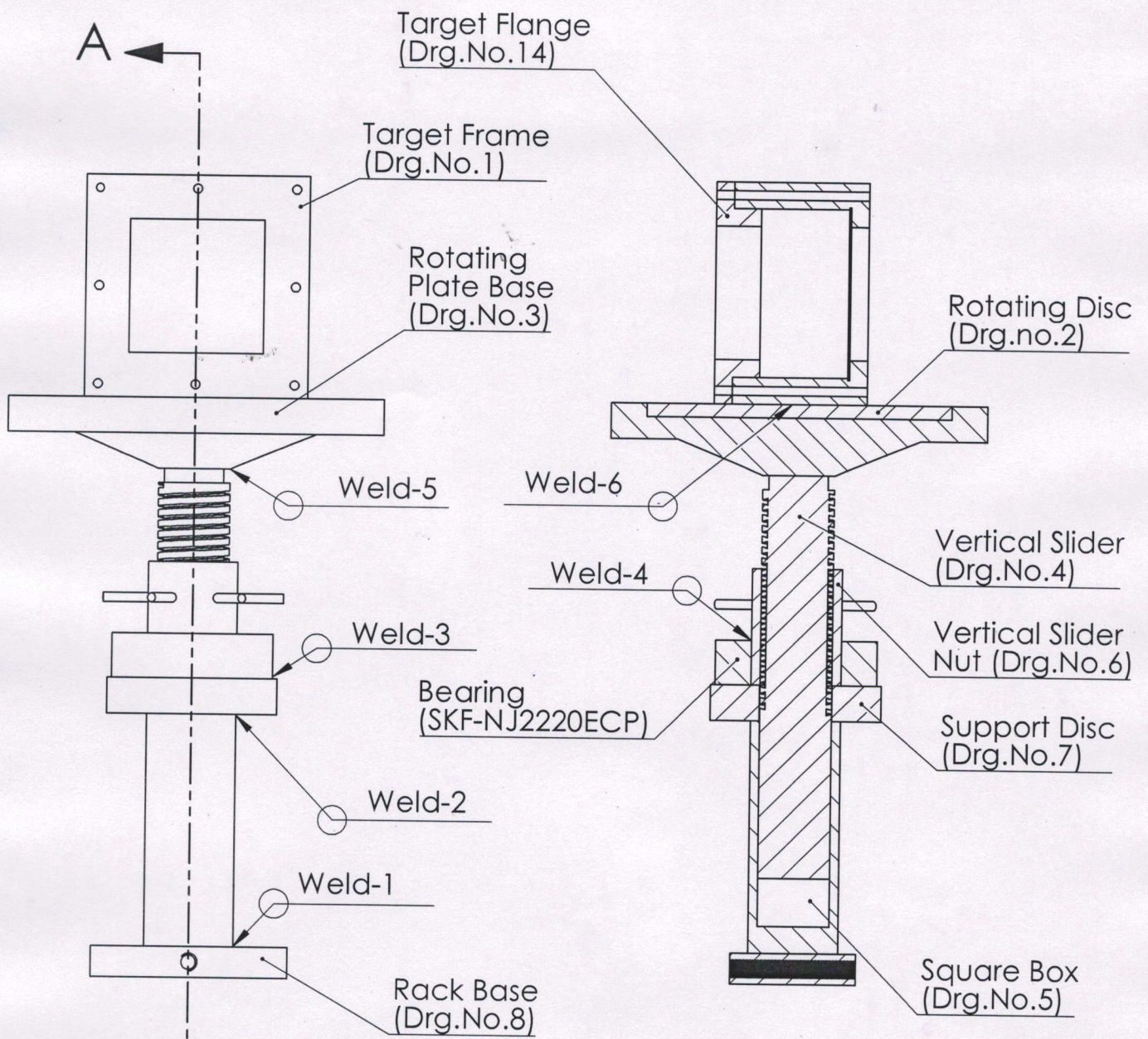


Rahulnath



Target Flange

DRG. No.:14	All dimensions are in mm		
Quantity:01No.	SCALE:	Material: C45	
DATE:16/12/2022	MF:22-23/23	NAME & Sign.:Rahulnath	

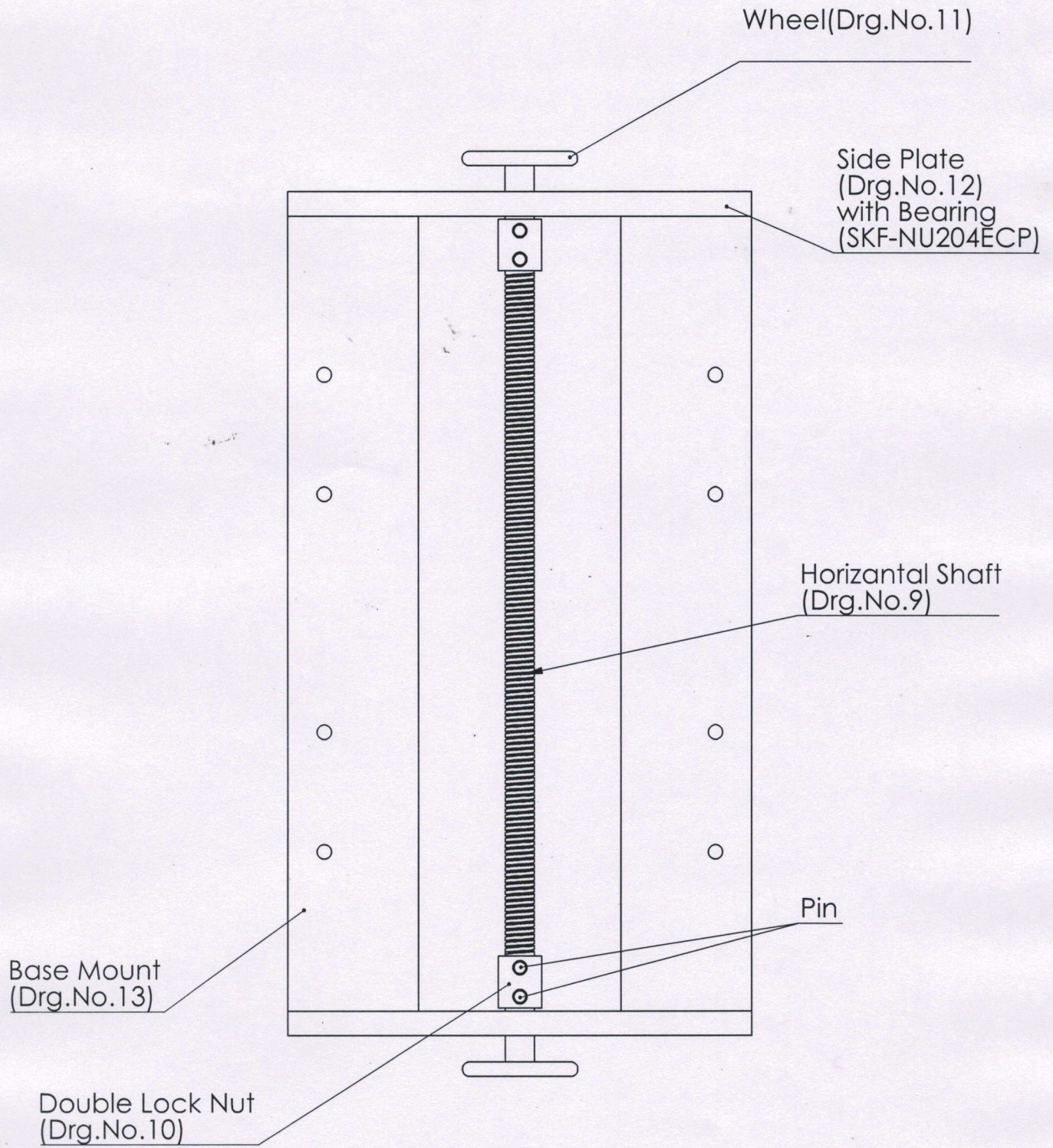


SECTION A-A

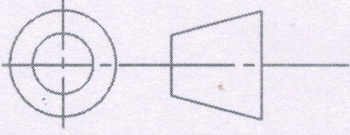
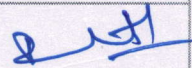
SCALE 1 : 7

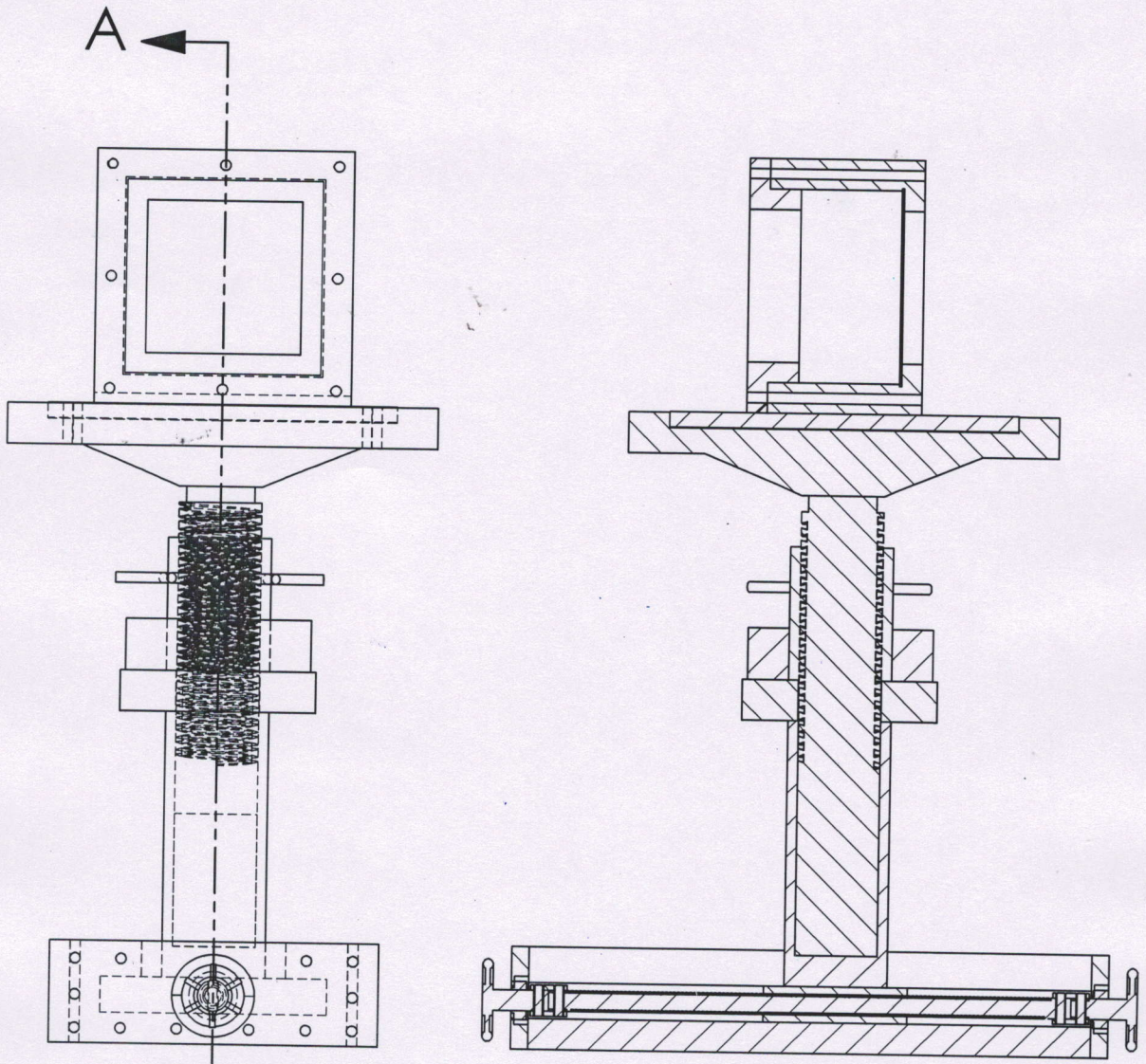
Vertical Assembly

DRG. No.:15	All dimensions are in mm		
Quantity:	SCALE:	Material:	
DATE:16/12/2022	MF:22-23/23	NAME & Sign.:Rahulnath	



Horizontal Assembly

DRG. No.:16	All dimensions are in mm		
Quantity:	SCALE:	Material:	
DATE:16/12/2022	MF:22-23/23	NAME & Sign.:Rahulnath	



SECTION A-A

SCALE 1 : 7

Assembly

DRG. No.:17	All dimensions are in mm		
Quantity: 04 Set	SCALE:	Material:	
DATE:16/12/2022	MF:22-23/23	NAME & Sign.:Rahulnath	