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| MISHRA DHATU NIGAM LIMITED A Government of India Enterprise P.O Kanchanbagh, Hyderabad – 500058, TS. Phone: 040- 24184578 / 24184685 Email: rajkumar@midhani-india.in | INVITATION TO TENDER NO. : MDN/PUR/18230021/LT/047/23-24 Date : 14.06.2023 DUE DATE : 07.07.2023 Time: 10.30 Hrs. OPENING DATE: 07.07.2023 Time: 10.35 Hrs. (FOR TECHNO-COMMERCIAL BID) |
| <p style="text-align: center;">O/C</p> | <p><u>Your offer should contain the following information:</u></p> <ol style="list-style-type: none"> 1. Unit Rate both in figures & words and Price Basis. 2. Validity Period of the offer. 3. Quantity/Trade discount, if any. 4. Delivery Schedules. 5. Mode of Dispatch. 6. Terms of Payment. 7. Taxes & Excise / Octroi applicable with rate percentage. |

Dear Sir,

You are requested to send your lowest best offer for the following items, as per the Terms & Conditions enclosed herewith. Please send your offer in a sealed envelope superscribing Invitation to Tender No. and Due date

| S. No. | DESCRIPTION & SPECIFICATION | Estimated Requirement | | Delivery Required |
|--------|--|-----------------------|----------|--------------------------|
| | | Qty. | Unit | |
| 1 | <p>Supply of Indigenous Auto Billet Grinding Machine as per technical specification at Annexure-I</p> <ol style="list-style-type: none"> 1). Technical Specifications as per Annexure-I. 2). General Terms and Conditions as per Annexure-II. 3). Procedure for Tender Submission as per Annexure-III. 4). Specimen Format of BG as per Annexure-IV. 5). Specimen Format of Pre-Contract Integrity Pact as per Annexure-V. 6). Public Procurement (Preference to Make in India), Order 2017 – Revision as per Annexure-VI. 7). Specimen format of Declaration to be given by vendor as per Annexure-VII. <p>Note: Tenders should be submitted in 2 parts i.e., Technical Bid and Price Bid Separately. Technical Bid & Price Bid shall be received at our end on or before the due date & Time indicated above. Technical Bids will be opened on the <u>above Due Date</u>. Price Bid of Technically acceptable tenders will be opened at a later date with prior intimation to the parties.</p> | 03 | Assembly | As per Annexure-I |

EARNEST MONEY DEPOSIT: Rs.2,00,000/- (Rupees two lakh only).

For Complete details, refer General Terms and Conditions document Clause 17.

EMD Exemption: Procurement under this Bid is reserved for purchase from MSME, whose credentials are validated inline through Udyog Aadhar for that product category. If the bidder wants to avail the reservation benefit, the bidder must be the manufacturer of the offered product in case of bid for supply of goods. Traders are excluded from the purview of Public Procurement Policy for Micro and Small Enterprises. Relevant documentary evidence in this regard shall be submitted along with the bid in respect of the offered product or service.

Security Deposit: The successful tenderer/Bidder shall be required to **furnish SD amount of 10% of purchase order value** within 21 days from the date of Purchase Order in form of DD/Bank Guarantee from any nationalized / schedule bank encashable in India. SD shall be valid up to acceptance of material, with an additional claim period of three months.

In case Security Deposit is not submitted within the stipulated time as above, interest @12% p.a. shall be levied for the period of delay beyond the stipulated time. Interest as above may be either deposited by the supplier / contractor or recovered from any amounts due to the supplier / contractor.

For complete details, refer GENERAL TERMS AND CONDITIONS document clause No. 18

Special Instructions:

The technical bid and Price Bid shall include the following:

I). TECHNICAL BID:

- 1). Confirmation that you can supply the material as per tender specification without any deviation. Drawings, leaflets, etc. to be enclosed.
- 2). You shall furnish the above information as part of your technical bid failing which your offer is liable to be rejected.
- 3). Delivery period required for supply should be clearly mentioned.
- 4). Indicate your GST No. in your offer.
- 5). Validity of your offer shall be 180 days from the date of tender opening.
- 6). **Payment Terms:**
90% payment along with 100% taxes, within 30 days from the date of receipt and acceptance of the material at Midhani.
Balance 10% payment shall be done after acceptance of the material at our end, against submission of Performance Bank Guarantee for 10% value of the order with valid till Guarantee / Warranty period.
- 7). The price shall be quoted on F.O.R. Midhani, Hyderabad.
- 8). Please indicate whether you are a Small or Medium Enterprise and produce necessary documentary evidence to claim benefit extended by Government of India.
- 9). Please indicate minimum order quantity (MOQ) as buyer reserves the right to vary the tender quantity.

II). PRICE BID:

- 1). Offer your firm lowest prices.
- 2). You should superscribe our Enquiry No. & Due date on the Envelope.
- 3). Tenders will be opened on the date and time indicated above in the presence of tenderers who choose to be present.

Thanking you,

**Yours faithfully,
For MISHRA DHATU NIGAM LTD.**


के.राजकुमार / K.RAJKUMAR
उप.प्रबन्धक (सामग्री)
Dy.General Manager (Materials)
मिश्र धातु निगम लिमिटेड/Mishra Dhatu Nigam Limited
कंचनबाग, हैदराबाद-58 / Kanchanbagh, Hyd-58

ANNEXURE-I

INDIGENOUS AUTOBILLET GRINDING MACHINE - 3 No's

Each machine comprising of trolley drive, main body assy., Hydraulic oil tank assy., Motor sliding assy., Grinder wheel assy. and Cabin assemblies.

SPECIFICATION/SCOPE OF SUPPLY

- 1.0 The scope of supply includes many fabricated/machined items and several standard bought out items as per the Bill of Materials enclosed here to form **INDIGENOUS AUTOBILLET GRINDING MACHINE(3 No's)**. Each machine comprising of Trolley drive assy., Main body assy., Hydraulic oil tank assy., Motor sliding assy., Grinder wheel assy. and Cabin assemblies. These assemblies form a part of the whole equipment.
- 2.0 The Bill of Material provides all the details like the description/specification, drawing number, material, quantity of supply and **remarks** wherever required.
- 3.0 The List of Drawings document provides the complete list of attached drawings for all the fabricated/manufactured items.
- 4.0 Material test certificates for all the items shall be submitted before going ahead with fabrication/manufacture and at the time of inspection.

- 5.0 **All the bought out items like Graphite impregnated bronze slide plates, Hydraulic motor, Hydraulic cylinders, Worm gear box, Bearings, Couplings, Plummer blocks, shall be purchased from highest quality sources. The makes and models shall be as per the Bill of Materials.**

Note: S.No: 8 of Drawing No: M42P001-00-00-B0 (Auto Billet Grinding Machine GA) Electric motor and S.No:9 of Drawing No: M42P001-12-00-B2 (Grinder Wheel Assy.) Grinding wheel are not in the scope of supply of the tenderer.

- 6.0 SL.No: 15 of Drg. NO: M42P001-14-01-B2 (Sheet 1 of 3) Metallic flush cabin door shall be with double sheet and PU padding with tempered glass view port of reasonable size with thick neoprene beadings all around the glass and door edges for dust and sound proof condition.

All the fasteners shall be of High Tensile rolled threaded type.

- 7.0 All critical machining like Bearing bracket (Drg. NO: M42P001-11-06-A2) have to be done only after fabrication and stress relieving. The Sliding tube (Item No. 5) of main body assembly (M42P001 - 11 - 00 - C1) will be checked for smooth movement during inspection at supplier's works.

8.0 **LIST OF SPARES :**

The following items shall be supplied by the tenderer along with the 3 machines as spares.

| <u>SL No.</u> | <u>DESCRIPTION</u> | <u>REFERENCE DRG. NO.</u> | <u>QTY. (No.)</u> |
|---------------|---|--|-----------------------|
| 1. | V- belts (C-210) | Sl.No. 15 of M42P001 - 00 - 00 - B0 | 12 |
| 2. | Leather bellow to suit Hyd. Cylinder Bore-Ø4" stroke - 150 (vertical) | Sl.No. 20 of M42P001 – 00 – 00 –B0 | 20 |
| 3. | 1" pitch duplex roller chain | Sl.No. 23 of M42P001 - 10 - 00 -B1 | 03 |
| 4. | Graphite Impregnated Bronze Slide Plate 200x100x20 | Sl.No. 06 of M42P001 - 11 - 00 -C1 | 32 |
| 5. | Leather bellow to suit Hyd. cylinder bore - Ø2", stroke – 1250 (Horizontal) | Sl.No. 32 of M42P001 – 11 – 00 –C1 | 20 |
| 6. | Tough-flex glass 450 x 350 x 16 | Sl.No. 11 of M42P001 – 14 – 01 –B2 | 08 |
| 7. | Leather bellow 1400 to 100 compressible | Sl.No. 29 of M42P001 – 11 – 00 –C2 | 06 |

- 9.0 All the assemblies in the scope of supply are to be used in sophisticated equipment and therefore the quality of material, fabrication, manufacture etc. shall be of highest order exactly as per the information provided in the respective drawings and documents. Any deviations from the tolerances and other quality parameters will make the component unsuitable to be used in the assembly.
- 10.0 The supplier shall go through all the drawings and check for their correctness with respect to the requirements of overall assembly and ask MIDHANI for any clarifications/corrections if required. Any changes in the drawings shall only be made with written consent from MIDHANI.
- 11.0 The electrodes etc. used for fabrication shall only be sourced from reputed firms like L&T, AdvaniOerlikon, AdorFontech and Esab. All welded components have to be stress relieved before any further processing. This is very important for the strength and accuracy of the assembly.

- 12.0 After fabrication all un-machined areas of the assembly shall be painted with red oxide and then two coats of epoxy color (Asian Paints) to finish. After dimensional, surface and material quality inspection the components shall be assembled at the supplier's works for checking and then dispatched to MIDHANI after clearance.
- 13.0 The supplier's scope of work also includes packing and transportation of Auto Billet Grinding machines-3 No's to MIDHANI.
- 14.0 The supplier shall deliver 3 units within 5 months of placement of order.
- 15.0 The supplied assemblies shall be guaranteed by the supplier for manufacturing and material defects for a period of one year from the date of installation or one and a half year from the date of dispatch whichever is earlier.

| S.No. | ITEM DESCRIPTION | DRAWING NO. | MATERIAL | QTY. | Remarks |
|-------|--|-------------------------------------|------------------------|------|---------------------------|
| A | AUTO BILLET GRINDING MACHINE GENERAL ARRANGEMENT | M42P001 - 00 - 00 - C0 | - | 1 | |
| B | HYDRAULIC OIL TANK ASSY. | M42P001 - 02 - 00 - B1 | - | 1 | |
| C | TROLLEY DRIVE | M42P001 - 10 - 00 - B1 | - | 1 | |
| D | MAIN BODY ASSEMBLY | M42P001 - 11 - 00 - D0 | - | 1 | |
| E | GRINDER WHEEL ASSY. | M42P001 - 12 - 00 - C2 | - | 1 | |
| F | MOTOR SLIDING ASSY. | M42P001 - 13 - 00 - C2 | - | 1 | |
| G | CABIN ASSY. | M42P001 - 14 - 00 - A2 | - | 1 | |
| | | | | | |
| S.No. | ITEM DESCRIPTION | DRAWING NO. | MATERIAL | No's | |
| A | AUTO BILLET GRINDING MACHINE GENERAL ARRANGEMENT | M42P001 - 00 - 00 - C0 | | | |
| 1 | HEX. HD BOLT M20 x 65 | IS : 1364 - 1 | - | 6 | |
| 2 | SQUARE BEVELED WASHER 22 | IS : 5372 | - | 6 | |
| 3 | HEX. HD NUT M20 | IS : 1364 - 3 | - | 14 | |
| 4 | ELECTRIC MOTOR 100 HP & 1440 RPM | IS : 1364 - 1 | - | - | NOT IN SCOPE OF SUPPLY |
| 5 | HEX. HD BOLT M20 x 70 | IS : 1364 - 1 | - | 4 | |
| 6 | SPLIT WASHER 22 | IS : 3063 | - | 12 | |
| 7 | HEXAGON SOCKET SET SCREW M8 x 20 | IS: 6094 | - | 2 | |
| 8 | HEX. HD BOLT M20 x 90 | IS : 1364 - 1 | - | 8 | |
| 9 | MOTOR PULLEY | M42P001 - 13 - 11 - A4 | - | 1 | |
| 10 | V - BELT (C-210) | - | - | 3 | |
| 11 | BELT TIGHTNER | M42P001 - 13 - 13 - B2 | - | 1 | |
| 12 | HYD. CYLINDER BORE-Ø4" STROKE - 150 (VER.) | M42P001 - 02 - 02 - A4 | - | 1 | |
| | | | | | |
| B | HYDRAULIC OIL TANK ASSY. | M42P001 - 02 - 00 - B1 | - | | |
| 1 | HYDRAULIC OIL TANK | M42P001 - 02 - 01 - B1 SH 1 OF 2 | St 42S, IS : 226-75 | 1 | |
| 1.1 | BASE PLATE 1630 x 650 x 20 | - | St 42S, IS : 226-75 | 1 | |
| 1.2 | PLATE - 1 1630 x 440 x 25 | - | St 42S, IS : 226-75 | 2 | |
| 1.3 | PLATE - 2 500 x 440 x 25 | - | St 42S, IS : 226-75 | 2 | |

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| 1.4 | TOP PLATE | M42P001 - 02 - 01 - A1 SH 2 OF 2 OF S.No - 1 | St 42S, IS : 226-75 | 1 | |
| 1.5 | PLATE - 3 1900 x 215 x 30 | - | St 42S, IS : 226-75 | 2 | |
| 1.6 | GUIDE WAY 1900 x 100 x 60 | M42P001 - 02 - 01 - A1 SH 2 OF 2 OF S.No - 2 | St 42S, IS : 226-75 | 4 | |
| 1.7 | BOTTOM STIFFENER PL. 150 x 125 x 20 | M42P001 - 02 - 01 - A1 SH 2 OF 2 OF S.No - 3 | St 42S, IS : 226-75 | 10 | |
| 1.8 | TOP STIFFENER PL. 50 x 50 x 12 thk. | M42P001 - 02 - 01 - A1 SH 2 OF 2 OF S.No - 4 | St 42S, IS : 226-75 | 14 | |
| 1.9 | SIDE STIFFENER PL. 150 x 135 x 20 thk. | M42P001 - 02 - 01 - A1 SH 2 OF 2 OF S.No - 5 | St 42S, IS : 226-75 | 4 | |
| 1.1 | HEX. HD. SCREW M8 x 20 | IS : 1364 - 2 | St 42S, IS : 226-75 | 32 | |
| 1.11 | PLAIN WASHER Ø8 | IS : 2016 | St 42S, IS : 226-75 | 32 | |
| 1.12 | BAFFLE PLATE 500 x 400 x 10 | - | St 42S, IS : 226-75 | 1 | |
| 2 | TANK COVER | M42P001 - 02 - 01 - A1 SH 2 OF 2 OF S.No - 6 | St 42S, IS : 226-75 | 2 | |
| 3 | HEX. HD. SCREW M8 x 20 | IS : 1364 - 2 | St 42S, IS : 226-75 | 32 | |
| 4 | PLAIN WASHER Ø8 | IS : 2016 | St 42S, IS : 226-75 | 32 | |
| 5 | SPACER 5 thk. x 1630 x 100 | M42P001 - 02 - 01 - A1 SH 2 OF 2 OF S.No - 7 | St 42S, IS : 226-75 | 2 | |
| 6 | HEX. HD. SCREW M16 x 45 | IS : 1364 - 2 | St 42S, IS : 226-75 | 10 | |
| 7 | PLAIN WASHER M16 | IS : 2016 | St 42S, IS : 226-75 | 10 | |
| 8 | OIL LEVEL INDICATOR | STD. | - | 1 | NOT SHOWN IN DRG. |
| 9 | FSB - 25 FILLER BREATHER FILTER | STD. | - | 1 | NOT SHOWN IN DRG. |
| 10 | SEAL 10 x 3 x L | RUBBER | - | 2 | |
| 11 | 1/2" ADAPTOR | STD. | | 2 | |
| 12 | 1/2" DRAIN PLUG WITH SEAL | STD. | - | 2 | |
| | | | | | |
| | | | | | |
| C | TROLLEY DRIVE | M42P001 - 10 - 00 - B1 | | | |
| 1 | BASE STRUCTURE | M42P001 - 10 - 01 - A1 SH 1 OF 3 | St 42S, IS : 226-75 | 1 | |
| 1.1 | BASE FRAME | M42P001 - 10 - 01 - B2 SH 2 OF 3 | St 42S, IS : 226-75 | 1 | |
| 1.1.1 | CHANNEL ISMC200 x 3000 LG. | IS : 808 | St 42S, IS : 226-75 | 2 | |
| 1.1.2 | CHANNEL ISMC200 x 1270 LG. | IS : 808 | St 42S, IS : 226-75 | 2 | |

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| 1.1.3 | CHANNEL ISMC200 x 2988 LG. | IS : 808 | St 42S, IS : 226-75 | 2 | |
| 1.1.4 | CHANNEL ISMC200 x 958 LG. | IS : 808 | St 42S, IS : 226-75 | 2 | |
| 1.1.5 | CHANNEL ISMC200 x 150 LG. | IS : 808 | St 42S, IS : 226-75 | 4 | |
| 1.1.6 | STIFFENER PL. 12 thk. x 500 x 200 | - | St 42S, IS : 226-75 | 2 | |
| 1.1.7 | CHANNEL ISMC75 x 500 LG. | - | St 42S, IS : 226-75 | 4 | |
| 1.1.8 | CHANNEL ISMC75 x 175 LG. | - | St 42S, IS : 226-75 | 3 | |
| 1.1.9 | TUBE (MEDIUM) Ø40 x 150 LG. | - | St 42S, IS : 226-75 | 7 | |
| 1.2 | BASE PLATE 3500 x 1610 x 25 | M42P001 - 10 - 01 - A2 SH 3 OF 3 | St 42S, IS : 226-75 | 1 | |
| 1.2.1 | PLATE 3500 x 1610 x 25 | IS : 808 | St 42S, IS : 226-75 | 1 | |
| 1.2.2 | CHANNEL ISMC150 x 600 LG. | IS : 808 | St 42S, IS : 226-75 | 2 | |
| 1.2.3 | CHANNEL ISMC150 x 385 LG. | IS : 808 | St 42S, IS : 226-75 | 3 | |
| 1.2.4 | STIFFENER PL. 138 x 65 x 12 thk. | - | St 42S, IS : 226-75 | 4 | |
| 2 | FIXING PLATE FOR PLUMMER BLOCK 345 x 145 x 50 | M42P001 - 10 - 02 - A4 | St 42S, IS : 226-75 | 7 | |
| 3 | HEX. HD BOLT M20 x 55 | IS : 1364 - 2 | St 42S, IS : 226-75 | 4 | |
| 4 | SPRING WASHER 22 | IS : 3063 | St 42S, IS : 226-75 | 18 | |
| 5 | PLUMMER BLOCK WITH SPHERICAL ROLLER BEARING etc. | FAG SNV160-F-L+21315+ FRM160/14(2-No's)+ FSV315+DKV160 | - | 6 | |
| 6 | PLUMMER BLOCK WITH SPHERICAL ROLLER BEARING etc. | FAG SNV160-F-L+21315+ FRM160/14(2-No's)+ FSV315 (2-No's) | - | 1 | |
| 7 | HEX. HD BOLT M20 x 65 | IS : 1364 - 1 | St 42S, IS : 226-75 | 14 | |
| 8 | SHAFT Ø75x 444 | M42P001 - 10 - 03 - A4 | 40 Ni2 Cr1 Mo28 | 2 | |
| 9 | WHEEL Ø260 x 100 | M42P001 - 10 - 04 - A4 | St 42S, IS : 226-75 | 4 | |
| 10 | KEY 20 x 12 x 100 LG. | - | St 42S, IS : 226-75 | 4 | |
| 11 | SHAFT Ø75x 1564 | M42P001 - 10 - 05 - A3 | 40 Ni2 Cr1 Mo28 | 1 | |
| 12 | SPACER-1 O.D85 x ID 106.5 x 106.5 | M42P001 - 10 - 06 - A4 of S.No. 1 | St 42S, IS : 226-75 | 7 | |
| 13 | SPACER-2 OD85 x ID 75 x 90 | M42P001 - 10 - 06 - A4 of S.No. 2 | St 42S, IS : 226-75 | 1 | |

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| 14 | RAIL LBS 60 x LG. | - | - | 2 | NOT IN SCOPE OF SUPPLY |
| 15 | 1" PITCH, 20 TEETH DUPLEX SPROCKET | - | - | 1 | |
| 16 | KEY 22 x 14 x 60 LG. | - | St 42S, IS : 226-75 | 1 | |
| 17 | MOUNTING BRACKET | - | - | 1 | AS PER GEAR BOX & MOTOR |
| 18 | HYDRAULIC MOTOR OMS- 125,Code No:151F0502 | - | - | 1 | DANFOSS MAKE |
| 19 | HYDRAULIC MOTOR BRACKET | - | - | 1 | AS PER HYD.MOTOR |
| 20 | WORM REDUCTION GEAR BOX 4" - 20 : 1 | PREMIUM MAKE U400 | - | 1 | |
| 21 | FLEXIBLE COUPLING L - 150 | - | - | 1 | |
| 22 | 1" PITCH, 14 TEETH DUPLEX SPROCKET | - | - | 1 | |
| 23 | 1" PITCH DUPLEX ROLLER CHAIN | - | - | 1 | |
| 24 | CHECK NUT M70 | - | - | 6 | |
| 25 | LOCK WASHER Ø70 | - | - | 6 | |
| 26 | PLAIN WASHER OD85 x ID 72 x 10 | - | - | 6 | |
| 27 | ISMC 250 x 250 LG. | - | St 42S, IS : 226-75 | 1 | |
| 28 | HYD. CYL. CONNECTING BRACKET - VERTICAL | M42P001 - 10 - 07 - A3 | St 42S, IS : 226-75 | 1 | |
| 29 | HEX. NUT M20 | - | IS : 1364-3 | 4 | |
| 30 | PIN Ø45x 110 | M42P001 - 10 - 08 - A4 | 40Ni2 Cr1 Mo28 | 1 | |
| 31 | SPLIT PIN 5 x 45 | IS : 549 | St 42S, IS : 226-75 | 1 | |
| 32 | RAILING | M42P001 - 10 - 09 - A2 | St 42S, IS : 226-75 | 1 | |
| | | | | | |
| D | MAIN BODY ASSEMBLY | M42P001 - 11 - 00 - D0 | - | | |
| 1 | TOP / BOTTOM PLATE 1500 x 320 x 25 | M42P001 - 11 - 01 - C2 | St 42S, IS : 226-75 | 2 | |
| 2 | SIDE PLATE 1500 x 276 x 25 | M42P001 - 11 - 02 - D2 | St 42S, IS : 226-75 | 2 | |
| 3 | SLIDE PLATE SUPPORT 250 x 100 x 43 | M42P001 - 11 - 04 - A4 | - | 8 | |
| 4 | SOC. HD. CAP SCREW M12 x 35 LG. | IS : 2269 | - | 48 | |
| 5 | SLIDING TUBE | M42P001 - 11 - 03 - A2 | St 42S, IS : 226-75 | 1 | |

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| 6 | GRAPHITE IMPREGNATED BRONZE SLIDE PLATE 125x95x20 | M42P001 - 11 - 05 - B4 | - | 8 | |
| 7 | COUNTER SUNK SCREW M10 x 35 LG. | IS : 2269 | - | 32 | |
| 8 | BEARING BRACKET | M42P001 - 11 - 06 - B2 | St 42S, IS : 226-75 | 2 | |
| 9 | TAPERED ROLLER BEARING - 33024 | SKF | - | 2 | |
| 10 | LOCKING WASHER M110 X 2 | SKF | - | 2 | |
| 11 | LOCK NUT 110 X 2 | SKF | - | 2 | |
| 12 | BEARING COVER | M42P001 - 11 - 07 - A4 | St 42S, IS : 226-75 | 2 | |
| 13 | HX. HD SCREW M12 x 25 LG. | IS : 1364 - 2 | - | 8 | |
| 14 | HYD. CYL. CONNECTING BRACKET (HOZ.) | M42P001 - 11 - 08 - B3 | St 42S, IS : 226-75 | 4 | |
| 15 | HX. HD SCREW M20 x 50 LG. | IS : 1364 - 2 | - | 8 | |
| 16 | SPLIT WASHER - Ø20 | IS : 3063 | - | 22 | |
| 17 | HYD. CYL. CONNECTING PIN (HOZ.) | M42P001 - 11 - 09 - A4 | 40 Ni2 Cr1 Mo28 | 2 | |
| 18 | PISTON CONNECTING BRACKET (HOZ.) | M42P001 - 11 - 10 - A4 | St 42S, IS : 226-75 | 1 | |
| 19 | HX. HD SCREW M20 x 85 LG. | IS : 1364 - 2 | - | 8 | |
| 20 | HX. HD NUT - M20 | IS : 1364 - 3 | | 20 | |
| 21 | PISTON CONNECTING PIN (HORIZONTAL) Ø40 X 170 | M42P001 - 11 - 11 - A4 | 40 Ni2 Cr1 Mo28 | 2 | |
| 22 | HYD. CYLINDER BORE-Ø2" STROKE - 1250 (HOZ.) | M42P001 - 02 - 03 - B4 | - | 2 | |
| 23 | SELF ALIGNING CLEVIS CGK 30 | REXROTH | - | 2 | |
| 24 | BASE STAND | M42P001 - 11 - 12 - A2 | St 42S, IS : 226-75 | 1 | |
| 25 | HEX. HD SCREW M20 x 80 LG. | IS : 1364 - 1 | - | 6 | |
| 26 | HEX. HD SCREW M20 x 65 LG. | IS : 1364 - 1 | - | 6 | |
| 27 | SQ. BEVELED WASHER 22 | IS : 5372 | - | 6 | |
| 28 | SOC. HD CAP SCREW M10 x 35 LG. | IS : 2269 | - | 24 | |
| 29 | LEATHER BELLOW 1400 TO 100 COMPRESSIBLE | - | - | 2 | |
| 30 | SPRING RETAINING RING 30 x 28.6 | IS : 3075 - 1 | - | 2 | |
| 31 | SPRING RETAINING RING 30 x 28.6 | IS : 3075 - 1 | - | 2 | |

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| 32 | LEATHER BELLOW TO SUIT HYD. CYLINDER BORE - Ø2",STROKE - 1250 | - | - | 2 | |
| 33 | HYD. CYL. TRUNION CONNECTING BRACKET | M42P001 - 11 - 13 - B3 | St 42S, IS : 226-75 | 2 | |
| 34 | CONNECTING YOKE | M42P001 - 11 - 14 - A4 | St 42S, IS : 226-75 | 1 | |
| 35 | HINGE PIN | M42P001 - 11 - 15 - A3 | 40Ni2 Cr1 Mo28, IS : 1570 - 61 | 2 | |
| 36 | HEX. HD SCREW M16 x 45 LG. | IS : 1364 - 2 | - | 12 | |
| 37 | SPRING WASHER M16 | | | 12 | |
| 38 | CONNECTING PLATE | M42P001 - 11 - 17 - A3 | | 1 | |
| 39 | HEX. HD SCREW M12 x 50 LG. | IS : 1364 - 2 | | 10 | |
| 40 | SPRING WASHER M12 | IS : 3063 | | 10 | |
| 41 | SPACER | M42P001 - 11 - 18 - A4 | | 1 | |
| 42 | HEX. HD SCREW M16 x 35 LG. | IS : 1364 - 2 | | 32 | |
| | | | | | |
| | | | | | |
| E | GRINDER WHEEL ASSY. | M42P001 - 12 - 00 - C2 | - | | |
| 1 | MAIN FRAME | M42P001 - 12 - 01 - B2 | St 42S, IS : 226-75 | 1 | |
| 2 | PULLEY HUB Ø375 x 550 | M42P001 - 12 - 02 - A3 | St 42S, IS : 226-75 | 1 | |
| 3 | DEEP GROOVE BALL BEARING - OD160 x 37 | SKF - 6315 | St 42S, IS : 226-75 | 4 | |
| 4 | BEARING END COVER Ø195 x 52 | M42P001 - 12 - 03 - A4 | St 42S, IS : 226-75 | 2 | |
| 5 | O' RING Ø75 x 6 | - | | 2 | |
| 6 | HEX. SOC. HD CAP SCREW BOLT M10 x 50 | IS : 2269 | St 42S, IS : 226-75 | 16 | |
| 7 | SHAFT Ø90 x 820 | M42P001 - 12 - 04 - A3 | 40 Ni2 Cr1 Mo28 | 1 | |
| 8 | FLANGE Ø375 x 12 | M42P001 - 12 - 05 - A4 | St 42S, IS : 226-75 | 1 | |
| 9 | GRINDING WHEEL OD 610 x ID 203 x 76 | - | - | 1 | NOT IN SCOPE OF SUPPLY |
| 10 | FLANGE Ø375 x 28 | M42P001 - 12 - 06 - A4 | St 42S, IS : 226-75 | 1 | |
| 11 | LOCK NUT Ø285 x 60 | M42P001 - 12 - 07 - A4 | St 42S, IS : 226-75 | 1 | |
| 12 | SHAFT FIXING BLOCK 325 x 85 x 80 | M42P001 - 12 - 08 - A4 | St 42S, IS : 226-75 | 2 | |
| 13 | PIN Ø50 x 110 | M42P001 - 12 - 09 - A4 | 40 Ni2 Cr1 Mo28 | 2 | |

| | | | | | |
|----------|------------------------------------|-----------------------------------|------------------------|----|--|
| 14 | SPLIT PIN 8 x 50 | IS : 549 | 40 Ni2 Cr1 Mo28 | 4 | |
| 15 | HEX. HD BOLT M24 x 180 | IS : 1364 - 1 | SS | 2 | |
| 16 | SPRING WASHER 24 | IS : 3063 | SS | 2 | |
| 17 | HEX. HD NUT M24 | IS : 1364 - 3 | SS | 2 | |
| 18 | PIN Ø50 x 130 | M42P001 - 12 - 10 - A4 | 40 Ni2 Cr1 Mo28 | 2 | |
| 19 | GRINDING WHEEL GUARD | M42P001 - 12 - 11 - A2 | St 42S, IS : 226-75 | 1 | |
| 20 | HEX. HD BOLT M10 x 115 LG. | IS : 1364 - 2 | - | 6 | |
| 21 | SPRING WASHER 12 | IS : 3063 | - | 6 | |
| 22 | HEX. HD NUT M10 | IS : 1364 - 3 | SS | 6 | |
| | | | | | |
| F | MOTOR SLIDING ASSY. | M42P001 - 13 - 00 - C2 | - | | |
| 1 | MOTOR TABLE | M42P001 - 13 - 01 - C3 | St 42S, IS : 226-75 | 1 | |
| 2 | ROLLER Ø150 x 70 | M42P001 - 13 - 02 - A4 | St 42S, IS : 226-75 | 8 | |
| 3 | SEALED DEEP GROOVE BALL BEARING | SKF - 6308 | St 42S, IS : 226-75 | 16 | |
| 4 | ROLLER PIN Ø40 x 230 | M42P001 - 13 - 03 - A4 | 40 Ni2 Cr1 Mo28 | 4 | |
| 5 | SPACER Ø50 x 37 | M42P001 - 13 - 04 - A4 | St 42S, IS : 226-75 | 12 | |
| 6 | ROLLER BRACKET | M42P001 - 13 - 05 - A4 | St 42S, IS : 226-75 | 4 | |
| 7 | HEX. HD SCREW M16 x 40 | IS : 1364 - 2 | St 42S, IS : 226-75 | 8 | |
| 8 | SPLIT WASHER 16 | IS : 3063 | St 42S, IS : 226-75 | 8 | |
| 9 | LOCKING PLATE 60 x 25 x 8 thk. | M42P001 - 13 - 06 - A4 | St 42S, IS : 226-75 | 4 | |
| 10 | HEX. HD SCREW M6 x 20 | IS : 1364 - 2 | St 42S, IS : 226-75 | 8 | |
| 11 | HEX. HD NUT M36 | IS : 1364 - 3 | St 42S, IS : 226-75 | 8 | |
| 12 | SPLIT WASHER 36 | IS : 3063 | St 42S, IS : 226-75 | 8 | |
| 13 | ROLLER BOLT Ø60 x 190 | M42P001 - 13 - 07 - A4 | 40 Ni2 Cr1 Mo28 | 4 | |
| 14 | SPACER Ø50 x 10 | M42P001 - 13 - 08 - B4 S.No.-1 | St 42S, IS : 226-75 | 4 | |
| 15 | SPACER Ø50 x 17 | M42P001 - 13 - 08 - B4 S.No.-2 | St 42S, IS : 226-75 | 4 | |
| 16 | BRACKET | M42P001 - 13 - 09 - B4 | St 42S, IS : 226-75 | 1 | |
| 17 | INTERNAL CIRCLIP 90 x 3 | IS : 3057 - 2 | St 42S, IS : 226-75 | 16 | |

| | | | | | |
|----------|---|---|------------------------|----|--|
| | | | | | |
| G | CABIN ASSY. | M42P001 - 14 - 00 - A2 | - | | |
| 1 | CABIN | M42P001 - 14 - 01 - B2 SH 1 OF 3 | St 42S, IS : 226-75 | 1 | |
| 1.1 | CABIN FRAME | M42P001 - 14 - 01 - B2 SH 2 OF 3 | St 42S, IS : 226-75 | 1 | |
| 1.2 | PLATE - 1 10 thk. x 2350 x 1180 | M42P001 - 14 - 01 - B2 SH 3 OF 3 OF S.No - 1 | St 42S, IS : 226-75 | 1 | |
| 1.3 | PLATE - 2 6 thk. x 2172 x 1190 | M42P001 - 14 - 01 - B2 SH 3 OF 3 OF S.No - 6 | St 42S, IS : 226-75 | 1 | |
| 1.4 | PLATE - 3 6 thk. x 2350 x 980 | M42P001 - 14 - 01 - B2 SH 3 OF 3 OF S.No - 2 | St 42S, IS : 226-75 | 1 | |
| 1.5 | PLATE - 4 10 thk. x 2281 x 1190 | M42P001 - 14 - 01 - B2 SH 3 OF 3 OF S.No - 3 | St 42S, IS : 226-75 | 1 | |
| 1.6 | PLATE - 5 10 thk. x 1921 x 210 | M42P001 - 14 - 01 - B2 SH 3 OF 3 OF S.No - 4 | St 42S, IS : 226-75 | 1 | |
| 1.7 | PLATE - 6 10 thk. x 1815 x 980 | M42P001 - 14 - 01 - B2 SH 3 OF 3 OF S.No - 5 | St 42S, IS : 226-75 | 1 | |
| 1.8 | PLATE - 7 10 thk. x 990 x 210 | - | St 42S, IS : 226-75 | 1 | |
| 1.9 | TOP PLATE 6 thk. x 1225 x 1206 | M42P001 - 14 - 01 - B2 SH 3 OF 3 OF S.No - 7 | St 42S, IS : 226-75 | 1 | |
| 2 | GLASS FIXING BRACKET | M42P001 - 14 - 03 - A4 | St 42S, IS : 226-75 | 2 | |
| 3 | GLASS 450 x 350 x 16 | - | TOUGH-FLEX GLASS | 4 | |
| 4 | ACRYLIC CLEAR SHEET 450 x 350 x 8 | | - | 1 | |
| 5 | HEX. HD SCREW M8 x 20 | IS : 1364 - 2 | St 42S, IS : 226-75 | 18 | |
| 6 | SPLIT WASHER Ø8 | IS : 3063 | St 42S, IS : 226-75 | 18 | |
| 7 | HEX. HD SCREW M8 x 16 | IS : 1364 - 2 | St 42S, IS : 226-75 | 8 | |
| 8 | SLIDING ACRYLIC CLEAR SHEET WITH HANDLE 450 x 350 x 10 | | | 2 | |
| 9 | 9" EXHAUST FAN | - | | 1 | |
| 10 | INDUSTRIAL HINGED METALLIC FLUSH CABIN DOOR (HMPS) WITH TEMPERED GLASS VIEW | STD. | - | 1 | |
| 11 | ERGONOMIC OPERATOR REVOLVING BAR CHAIR | STD. | - | 1 | |
| 12 | WOODEN BLOCK 1160 x 940 x 100 | - | WOOD | 1 | |
| 13 | DUMMY PLATE 10 THK. x 520 x 250 | - | St 42S, IS : 226-75 | 1 | |

42P001 - AUTO BILLET GRINDER DRG'S LIST

00 - GENERAL ARRANGEMENT

| SL. No | MIDHANI DRG. No | DESCRIPTION | REMARKS |
|--------|------------------------|--|---------|
| 1 | M42P001 - 00 - 00 - C0 | AUTO BILLET GRINDING MACHINE GENERAL ARRANGEMENT | |

02 - HYDRAULICS

| | | | |
|---|----------------------------------|---|--|
| 1 | M42P001 - 02 - 00 - B1 | HYDRAULIC OIL TANK ASSY. | |
| 2 | M42P001 - 02 - 01 - B1 SH 1 OF 2 | HYDRAULIC OIL TANK | |
| 3 | M42P001 - 02 - 01 - A1 SH 2 OF 2 | COMPONENT DETAILS (FOR HYDRAULIC OIL TANK) | |
| 4 | M42P001 - 02 - 02 - A4 | HYD. CYLINDER BORE-Ø4" STROKE - 150 (VER.) | |
| 5 | M42P001 - 02 - 03 - B4 | HYD. CYLINDER BORE-Ø2" STROKE - 1250 (HOZ) | |
| | | | |

10 - TROLLEY DRIVE ASSY

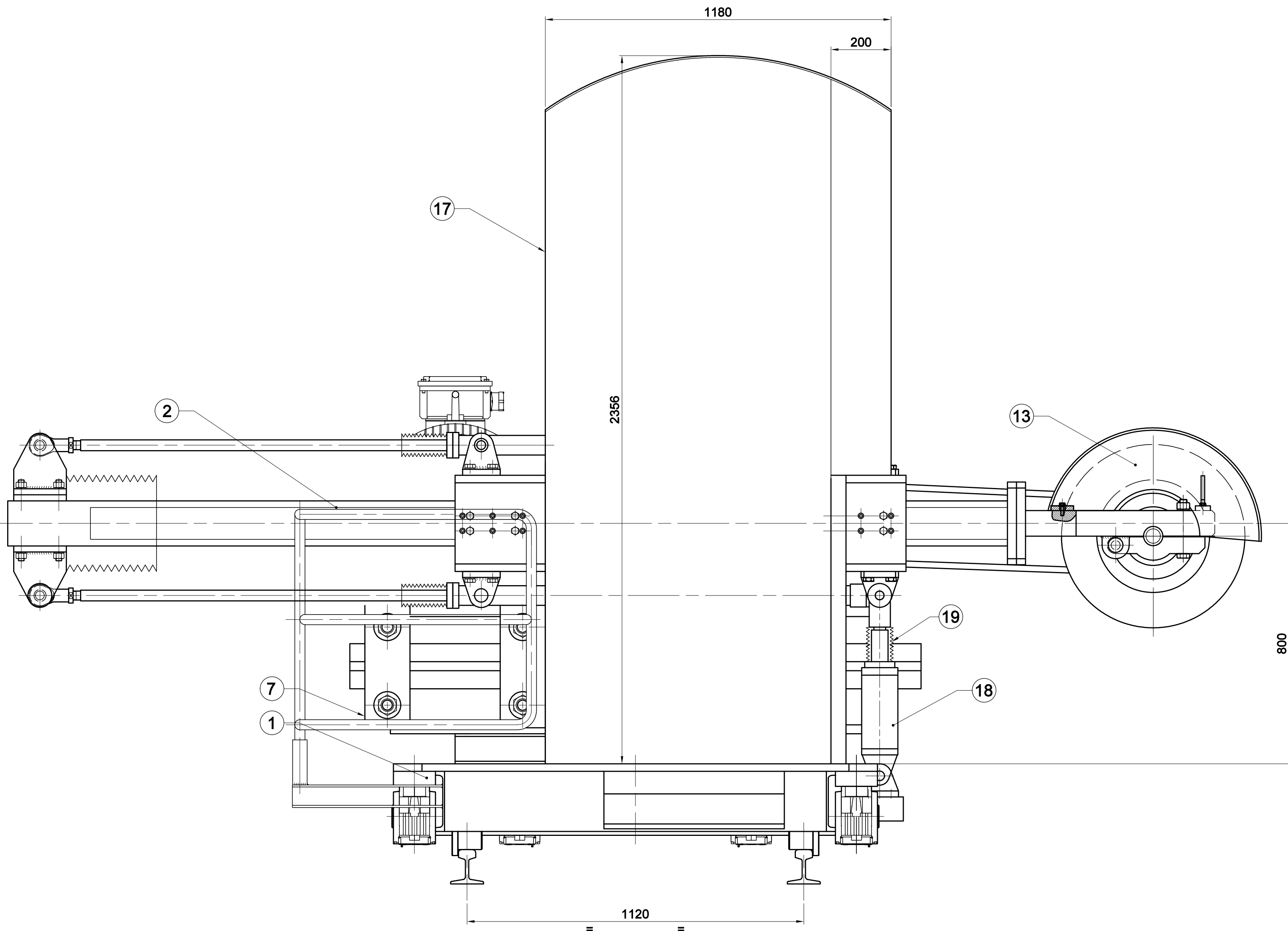
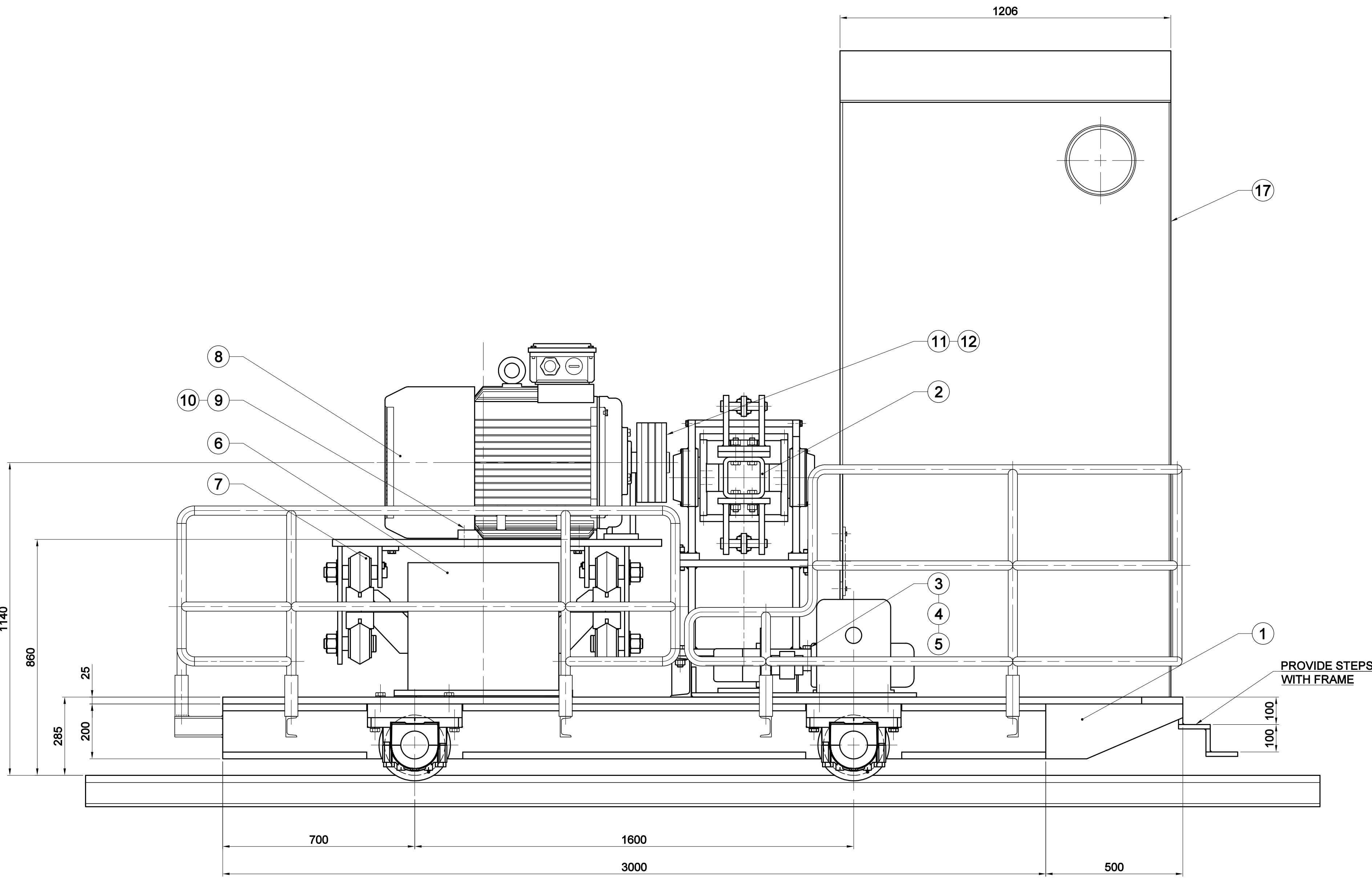
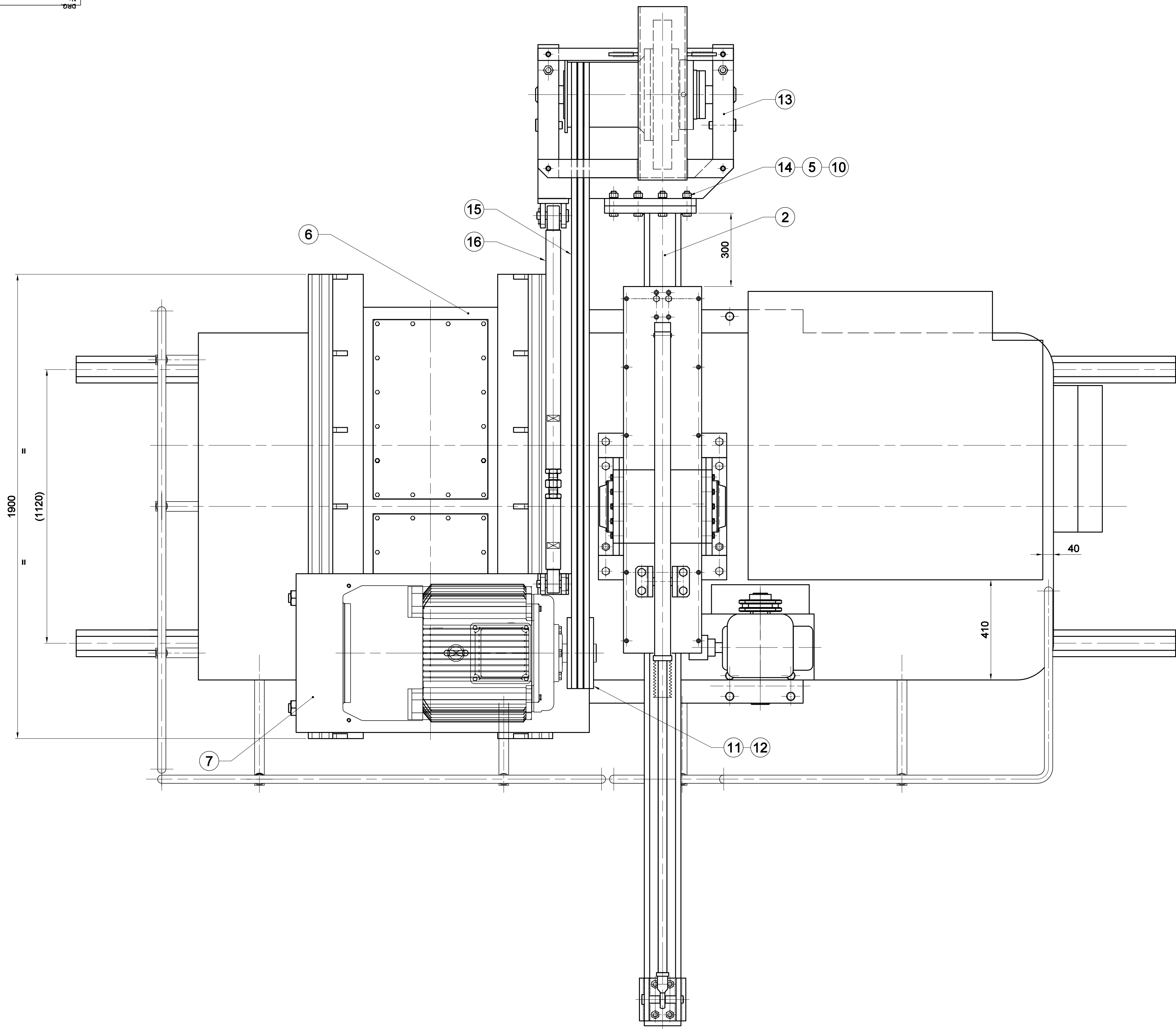
| | | | |
|----|----------------------------------|--|--|
| 1 | M42P001 - 10 - 00 - B1 | TROLLEY DRIVE | |
| 2 | M42P001 - 10 - 01 - B1 SH 1 OF 3 | BASE STRUCTURE (FOR TROLLEY DRIVE) | |
| 3 | M42P001 - 10 - 01 - B2 SH 2 OF 3 | BASE FRAME (FOR TROLLEY DRIVE) | |
| 4 | M42P001 - 10 - 01 - A2 SH 3 OF 3 | BASE PLATE (FOR TROLLEY DRIVE) | |
| 5 | M42P001 - 10 - 02 - A4 | FIXING PLATE (FOR PLUMMER BLOCK) | |
| 6 | M42P001 - 10 - 03 - A4 | SHAFT Ø75 x 444 (FOR TROLLEY DRIVE) | |
| 7 | M42P001 - 10 - 04 - A4 | WHEEL (FOR TROLLEY DRIVE) | |
| 8 | M42P001 - 10 - 05 - A3 | SHAFT Ø75 x 1564 (FOR TROLLEY DRIVE) | |
| 9 | M42P001 - 10 - 06 - A4 | SPACER (FOR TROLLEY DRIVE) | |
| 10 | M42P001 - 10 - 07 - B3 | HYD. CYL. CONNECTING BRACKET - VERTICAL | |
| 11 | M42P001 - 10 - 08 - B4 | PIN (FOR VERTICAL CYLINDER) | |
| 12 | M42P001 - 10 - 09 - A2 | RAILING | |
| | | | |

11 - MAIN BODY

| | | | |
|----|------------------------|---|--|
| 1 | M42P001 - 11 - 00 - D0 | MAIN BODY ASSEMBLY. | |
| 2 | M42P001 - 11 - 01 - D2 | TOP / BOTTOM PLATE (FOR MAIN BODY) | |
| 3 | M42P001 - 11 - 02 - E2 | SIDE PLATE (FOR MAIN BODY) | |
| 4 | M42P001 - 11 - 03 - B2 | SLIDING TUBE (FOR MAIN BODY) | |
| 5 | M42P001 - 11 - 04 - A4 | SLIDE PLATE SUPPORT (FOR MAIN BODY) | |
| 6 | M42P001 - 11 - 05 - B4 | GRAPHITE IMPREGNATED BRONZE SLIDE PLATE | |
| 7 | M42P001 - 11 - 06 - B2 | BEARING BRACKET (FOR MAIN BODY) | |
| 8 | M42P001 - 11 - 07 - A4 | BEARING COVER (FOR MAIN BODY) | |
| 9 | M42P001 - 11 - 08 - B3 | HYD. CYL. CONNECTING BRACKET (HORIZONTAL.) (FOR MAIN BODY) | |
| 10 | M42P001 - 11 - 09 - A4 | HYD. CYL. CONNECTING PIN (HORIZONTAL.) (FOR MAIN BODY) | |
| 11 | M42P001 - 11 - 10 - A4 | PISTON CONNECTING BRACKET (HORIZONTAL) | |


| | | | |
|--------------------------------|------------------------|---|--|
| 12 | M42P001 - 11 - 11 - A4 | PISTON CONNECTING PIN (HORIZONTAL) (FOR MAIN BODY) | |
| 13 | M42P001 - 11 - 12 - A2 | BASE STAND (FOR MAIN BODY) | |
| 14 | M42P001 - 11 - 13 - B3 | HYD. CYL. TRUNION CONNECTING BRACKET (FOR MAIN BODY) | |
| 15 | M42P001 - 11 - 14 - A4 | CONNECTING YOKE (FOR VERTICAL CYLINDER) | |
| 16 | M42P001 - 11 - 15 - A3 | HINGE | |
| 17 | M42P001 - 11 - 17 - A3 | CONNECTING PLATE(FOR MAIN BODY) | |
| 18 | M42P001 - 11 - 18 - A4 | SPACER | |
| | | | |
| 12 - GRINDER WHEEL ASSY | | | |
| 1 | M42P001 - 12 - 00 - C2 | GRINDER WHEEL ASSY. | |
| 2 | M42P001 - 12 - 01 - C2 | MAIN FRAME (GRINDER WHEEL ASSY.) | |
| 3 | M42P001 - 12 - 02 - A3 | PULLEY HUB (GRINDER WHEEL ASSY.) | |
| 4 | M42P001 - 12 - 03 - A4 | BEARING END COVER (GRINDER WHEEL ASSY.) | |
| 5 | M42P001 - 12 - 04 - A3 | SHAFT (GRINDER WHEEL ASSY.) | |
| 6 | M42P001 - 12 - 05 - A4 | FLANGE - $\varnothing 375 \times 12$ (GRINDER WHEEL ASSY.) | |
| 7 | M42P001 - 12 - 06 - A4 | FLANGE - $\varnothing 375 \times 28$ (GRINDER WHEEL ASSY.) | |
| 8 | M42P001 - 12 - 07 - A4 | LOCK NUT - $\varnothing 285 \times 60$ (GRINDER WHEEL ASSY.) | |
| 9 | M42P001 - 12 - 08 - A4 | SHAFT FIXING BLOCK (GRINDER WHEEL ASSY.) | |
| 10 | M42P001 - 12 - 09 - A4 | PIN FOR SHAFT FIXING BLOCK (GRINDER WHEEL ASSY.) | |
| 11 | M42P001 - 12 - 10 - A4 | PIN (FOR BELT TENSION ADJUSTMENT ROD) | |
| 12 | M42P001 - 12 - 11 - B2 | WHEEL GUARD | |
| | | | |
| 13 - MOTOR SLIDING UNIT | | | |
| 1 | M42P001 - 13 - 00 - C2 | MOTOR SLIDING ASSY. | |
| 2 | M42P001 - 13 - 01 - C3 | MOTOR TABLE (FOR MOTOR SLIDING) | |
| 3 | M42P001 - 13 - 02 - A4 | ROLLER (FOR MOTOR SLIDING UNIT) | |
| 4 | M42P001 - 13 - 03 - A4 | ROLLER PIN - $\varnothing 40 \times 230$ (FOR MOTOR SLIDING UNIT) | |
| 5 | M42P001 - 13 - 04 - A4 | SPACER - $\varnothing 50 \times 37$ (FOR MOTOR SLIDING UNIT) | |
| 6 | M42P001 - 13 - 05 - A4 | ROLLER BRACKET (FOR MOTOR SLIDING UNIT) | |
| 7 | M42P001 - 13 - 06 - A4 | LOCKING PLATE (FOR MOTOR SLIDING UNIT) | |
| 8 | M42P001 - 13 - 07 - A4 | ROLLER BOLT - $\varnothing 60 \times 190$ (FOR MOTOR SLIDING UNIT) | |
| 9 | M42P001 - 13 - 08 - B4 | SPACERS (FOR MOTOR SLIDING UNIT) | |
| 10 | M42P001 - 13 - 09 - B4 | BRACKET (FOR MOTOR SLIDING UNIT) | |
| 11 | M42P001 - 13 - 11 - A4 | MOTOR PULLEY (FOR MOTOR SLIDING UNIT) | |
| 12 | M42P001 - 13 - 13 - B2 | BELT TIGHTENER | |
| | | | |

| 14 - CABIN | | | |
|------------|----------------------------------|--------------------|--|
| 1 | M42P001 - 14 - 00 - A2 | CABIN ASSY. | |
| 2 | M42P001 - 14 - 01 - B2 SH 1 OF 3 | CABIN | |
| 3 | M42P001 - 14 - 01 - B2 SH 2 OF 3 | CABIN FRAME | |
| 4 | M42P001 - 14 - 01 - B2 SH 3 OF 3 | CABIN WALLS DETAIL | |
| 5 | M42P001 - 14 - 03 - A4 | GLASS FIXING FRAME | |
| | | | |



PROVISIONAL

| | | | | | | | | |
|----|------------------------|---------------------------------------|----|----|---|---|---|------------------------|
| 19 | - | LEATHER BELLOWS TO BLADE | - | 1 | - | - | - | - |
| 18 | M42P001 - 02 - 02 - A4 | HYD. CYLINDER BORE - 84" STROKE - 150 | - | 1 | - | - | - | - |
| 17 | M42P001 - 14 - 00 - A2 | CABIN ASSY. | - | 1 | - | - | - | - |
| 16 | M42P001 - 13 - 13 - B2 | BELT TIGHTNER | - | 1 | - | - | - | - |
| 15 | - | V - BELT : C-210 | - | 3 | - | - | - | - |
| 14 | IS : 1364 - 1 | HEX. HD BOLT M20 x 90 | SS | 8 | - | - | - | - |
| 13 | M42P001 - 12 - 00 - C2 | GRINDER WHEEL ASSY. | - | 1 | - | - | - | - |
| 12 | IS : 6084 | HEXAGON SOCKET SET SCREW M8 x 20 | SS | 2 | - | - | - | - |
| 11 | M42P001 - 13 - 11 - B3 | MOTOR PULLEY | - | 1 | - | - | - | - |
| 10 | IS : 3063 | SPLIT WASHER 22 | SS | 12 | - | - | - | - |
| 9 | IS : 1364 - 1 | HEX. HD BOLT M20 x 70 | SS | 4 | - | - | - | - |
| 8 | - | ELECTRIC MOTOR 100 HP & 1440 RPM | - | 1 | - | - | - | NOT IN SCOPE OF SUPPLY |
| 7 | M42P001 - 13 - 00 - B2 | MOTOR SLIDING ASSY. | - | 1 | - | - | - | - |
| 6 | M42P001 - 02 - 00 - B1 | HYDRAULIC OIL TANK ASSY. | - | 1 | - | - | - | - |
| 5 | IS : 1364 - 3 | HEX. HD NUT M20 | SS | 14 | - | - | - | - |
| 4 | IS : 5372 | SQUARE BEVELED WASHER 22 | SS | 6 | - | - | - | - |
| 3 | IS : 1364 - 1 | HEX. HD BOLT M20 x 65 | SS | 6 | - | - | - | - |
| 2 | M42P001 - 11 - 00 - D0 | MAIN BODY | - | 1 | - | - | - | - |
| 1 | M42P001 - 10 - 00 - B1 | TROLLEY DRIVE | - | 1 | - | - | - | - |

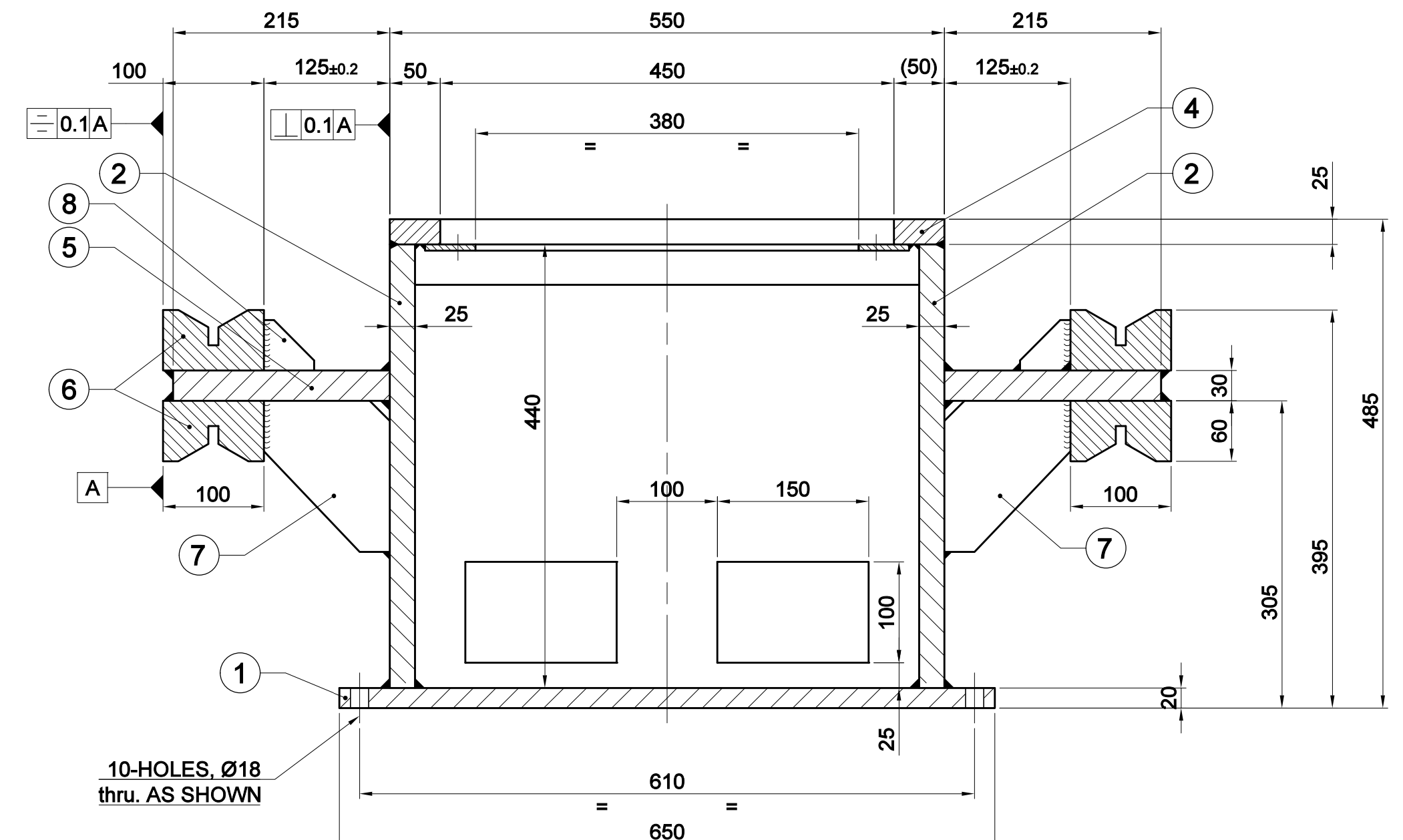
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|--|----------|-------------|---|----------------------------|---------|--------------|-------|---------|
| Sl.No. | DRG. No. | DESCRIPTION | | MATERIAL | No. OFF | PER. PER | TOTAL | REMARKS |
| EQUIP. : AUTO BILLET GRINDER (MIDHANI) | | | | DEPT. : AUTO GRINDING SHOP | | TOTAL WL. kg | | |
| W.O.No. : 18 - 2 - 032 | | | | | | | | |
| DESIGNED | NAME | DATE |  | Mishra Datta Nigam Ltd | | | | |
| DRN/CD | ASP | 23/09/18 | | SUPER ALLOYS PLANT | | | | |
| CHKD/COMP | | | | HYDERABAD | | | | |
| APPROVED | | | | HYDERABAD | | | | |
| | | | SUPERSEDES | | | | | |
| | | | SUPERSEDES | | | | | |

| No. | ZONE | DATE | W.O. No. | REVISION | REMARKS | BY | APPRO | DRG. No. | DESCRIPTION |
|--------------------|------|----------|--------------|--------------------|---------|-----|------------|----------|-------------|
| C | - | 03-10-18 | - | DRAWING No REVISED | | ASP | MAHESH | | |
| B | - | 23-05-18 | 18 - 2 - 032 | DRAWING No REVISED | | ASP | SASIDHARAN | | |
| REFERENCE DRAWINGS | | | | | | | | | |

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| No. | ZONE | DATE | W.O.No. | REMARKS | BY | APPD | DRG. No: | DESCRIPTION | |
| REVISION | | | | | | | REFERENCE DRAWINGS | | |



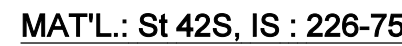
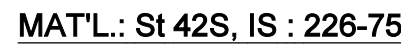
SECTION - 'XX'



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| | | | | | | | | |
|----|---|---|------------------------|----|---|---|---|---|
| 10 | - | BAFFLE PLATE 500 x 400 x 10 | St 42S, IS : 226-75 | 1 | - | - | - | - |
| 9 | M42P001 - 02 - 01 - A1 SH 2 OF 2 OF S.No - 5 | SIDE STIFFENER PL. 150 x 135 x 20 thk. | St 42S, IS : 226-75 | 4 | - | - | - | - |
| 8 | M42P001 - 02 - 01 - A1 SH 2 OF 2 OF S.No - 4 | TOP STIFFENER PL. 50 x 50 x 12 thk. | St 42S, IS : 226-75 | 14 | - | - | - | - |
| 7 | M42P001 - 02 - 01 - A1 SH 2 OF 2 OF S.No - 3 | BOTTOM STIFFENER PL. 150 x 125 x 20 | St 42S, IS : 226-75 | 10 | - | - | - | - |
| 6 | M42P001 - 02 - 01 - A1 SH 2 OF 2 OF S.No - 2 | GUIDE WAY 1900 x 100 x 60 | St 42S, IS : 226-75 | 4 | - | - | - | - |
| 5 | - | PLATE - 3 1900 x 215 x 30 | St 42S, IS : 226-75 | 2 | - | - | - | - |
| 4 | M42P001 - 02 - 01 - A1 SH 2 OF 2 OF S.No - 1 | TOP PLATE | St 42S, IS : 226-75 | 1 | - | - | - | - |
| 3 | - | PLATE - 2 500 x 440 x 25 | St 42S, IS : 226-75 | 2 | - | - | - | - |
| 2 | - | PLATE - 1 1630 x 440 x 25 | St 42S, IS : 226-75 | 2 | - | - | - | - |
| 1 | - | BASE PLATE 1630 x 650 x 20 | St 42S, IS : 226-75 | 1 | - | - | - | - |

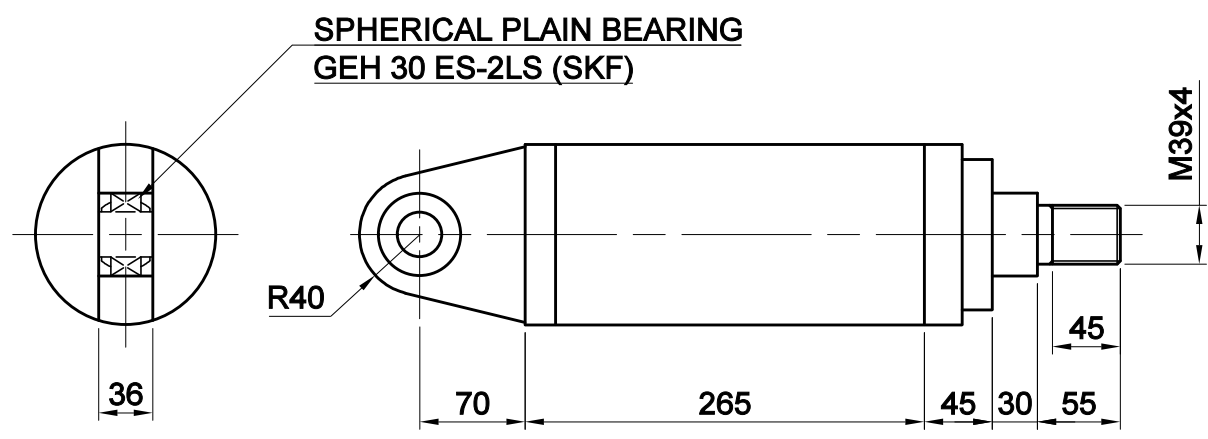
| B | - | 23-05-18 | 18 - 2 - 032 | S.No 13 MODIFIED | | | |
|-----------------|------|----------|--------------|------------------|----|---------------------------|----------|
| No. | ZONE | DATE | W.O.No. | REMARKS | BY | APPD | DRG. No: |
| REVISION | | | | | | REFERENCE DRAWINGS | |



NOTE:

1. ALL DIMENSIONS ARE IN mm.UNLESS OTHERWISE SPECIFIED.
2. REMOVE BURRS & SHARP CORNERS.
3. FREE MEASURE TOLERANCE SHOULD BE AS PER MEDIUM IS:2102-1969 UNLESS OTHERWISE SPECIFIED.
4. FOLLOW RELEVANT INDIAN STANDARDS FOR MANUFACTURE
5. DO NOT SCALE DRAWING.
6. ASK IF IN DOUBT.

NOTE: 1.ALL DIMENSIONS ARE IN mm .U.O.S.
2.REMOVE BURRS & SHARP CORNERS
3.FREE MEASURE TOLERANCE SHOULD BE AS PER MEDIUM IS:2102 - 1969 U.O.S.
4.FOLLOW RELEVANT INDIAN STANDARDS FOR MANUFACTURE
5.DO NOT SCALE DRAWING.
6.ASK, IF IN DOUBT.

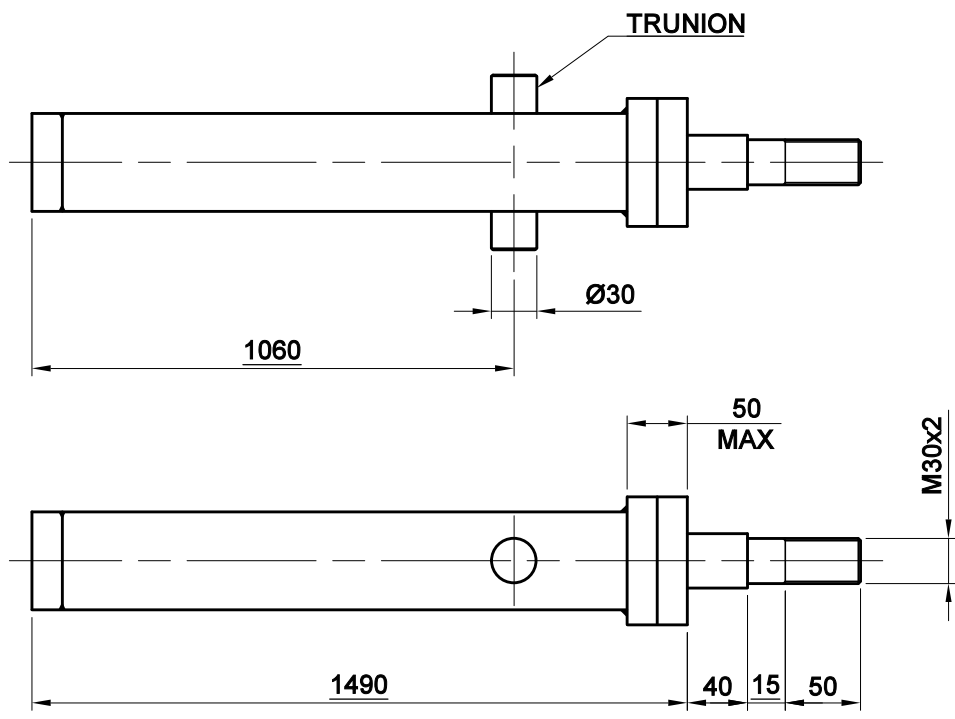


SPECIFICATION

- 1). CYLINDER BORE : Ø100
2). PISTON ROD : Ø50
3). STROKE : 150
4). WORKING PRESSURE : 200 bar
5). TYPE : SELF ALIGNING CLEVIS AT BASE

| Sl.No. | DRG. No. | DESCRIPTION | MATERIAL | No. OFF | PER PCE. | TOTAL | REMARKS |
|---------------------------------------|----------|-------------|---|---------|------------------------|-------|---------|
| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | DEPT. : AUTO GRINDING SHOP | | WEIGHT kg. | | |
| W.O.No. : 16 - 1 - 122 | | | Mishra Dhatu Nigam Ltd | | TOTAL Wt. kg | | |
| NAME | | | MIDHANI | | SUPER ALLOYS PLANT | | |
| DATE | | | HYDERABAD | | | | |
| DESIGNED | | | | | | | |
| DRAWN | | | ASP | | 06/04/17 | | |
| CHECKED | | | | | | | |
| APPROVED | | | | | | | |
| FINISH ▽ IF NOT SHOWN | | | SURFACE FINISH IN µm AS PER IS:696 - 1972 | | | | |
| SCALE - 1 : 5 | | | TITLE | | DRG. No. | | |
| HYD. CYLINDER BORE-Ø4" | | | STROKE - 150 (VER.) | | M42P001 - 02 - 02 - A4 | | |
| SHEET 1 | | | OF 1 | | | | |

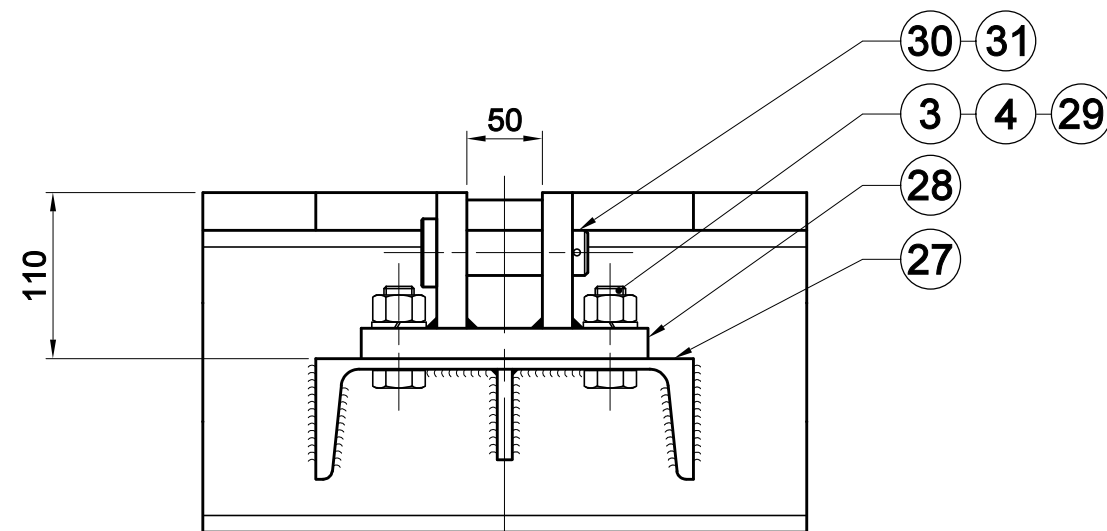
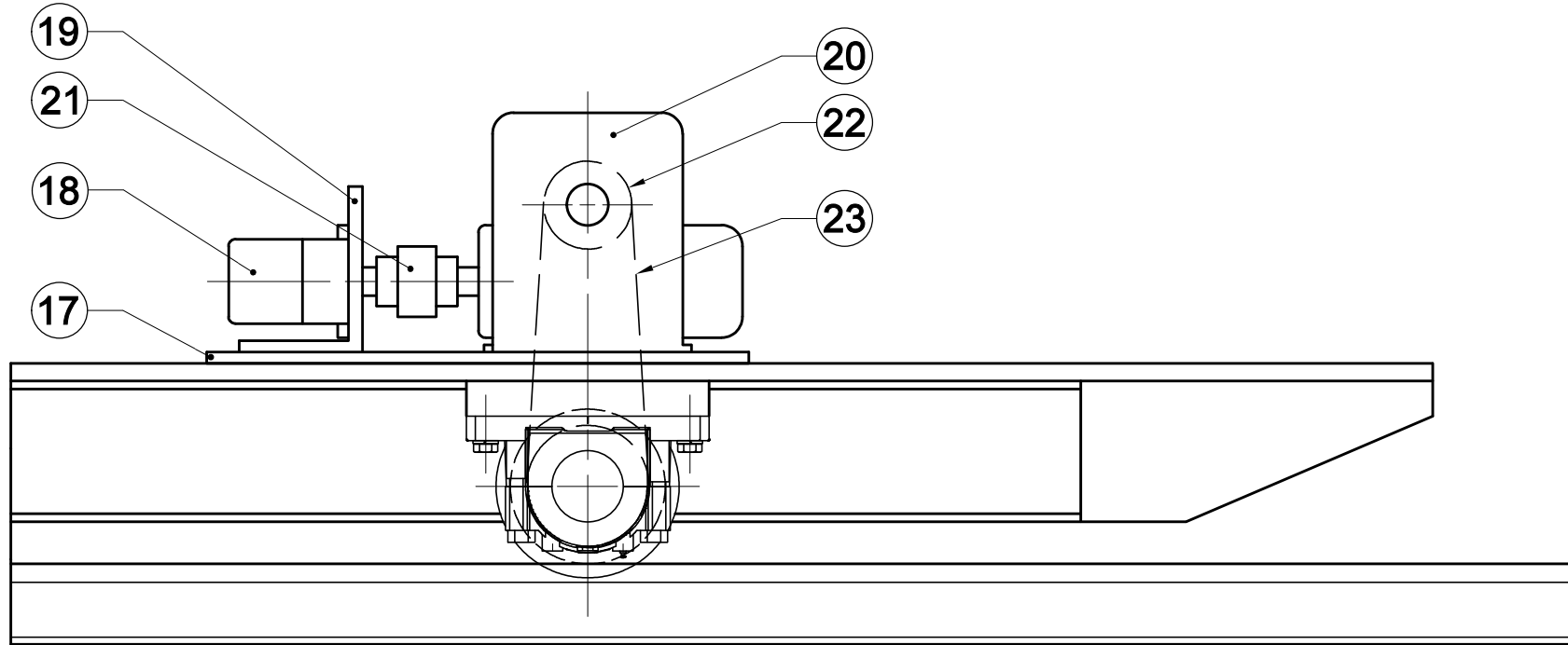
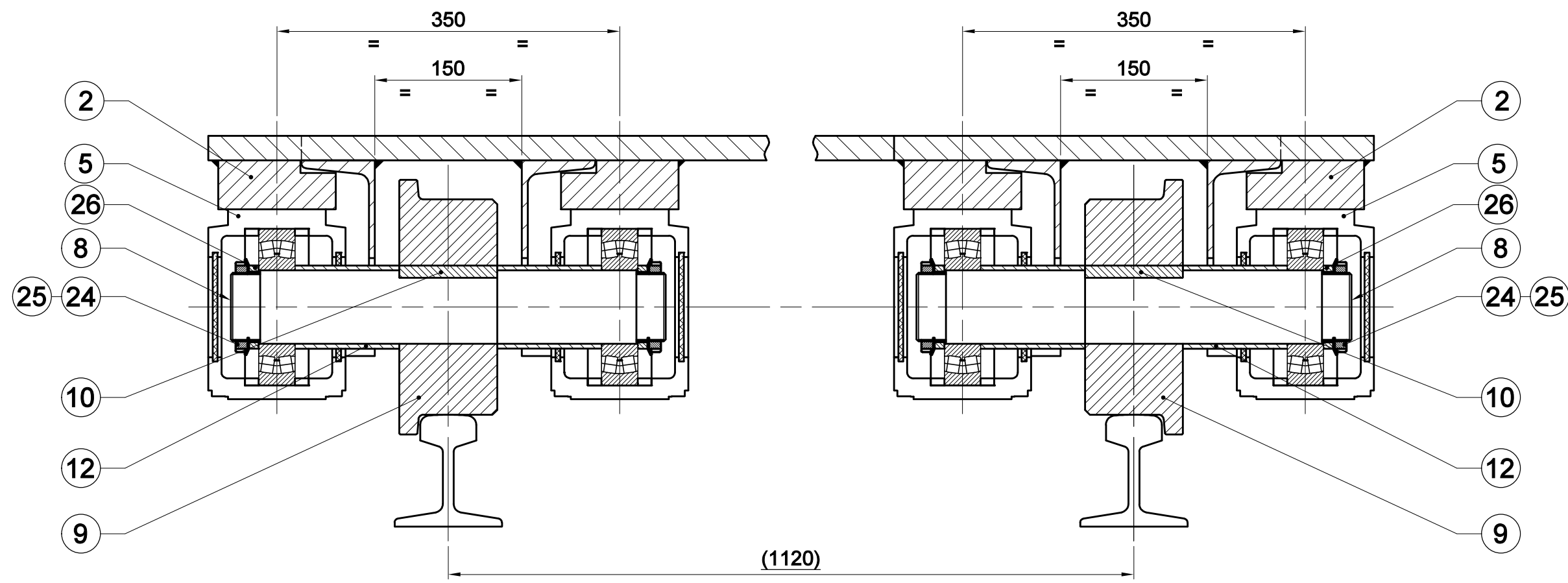
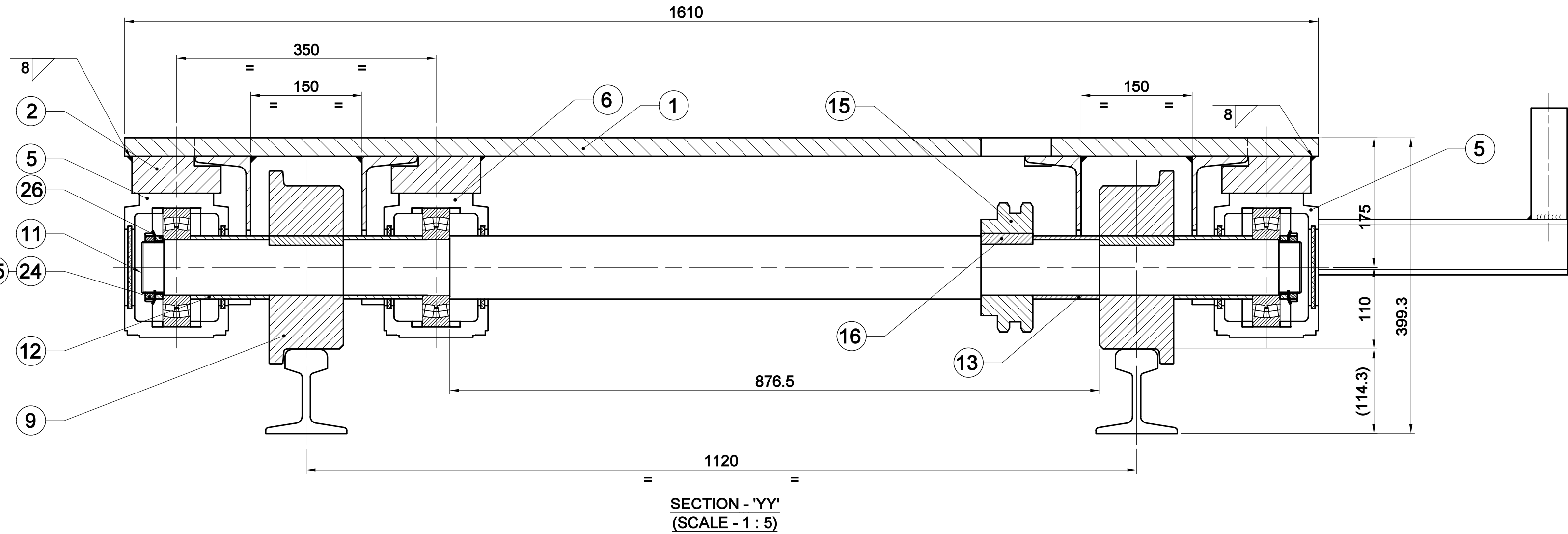
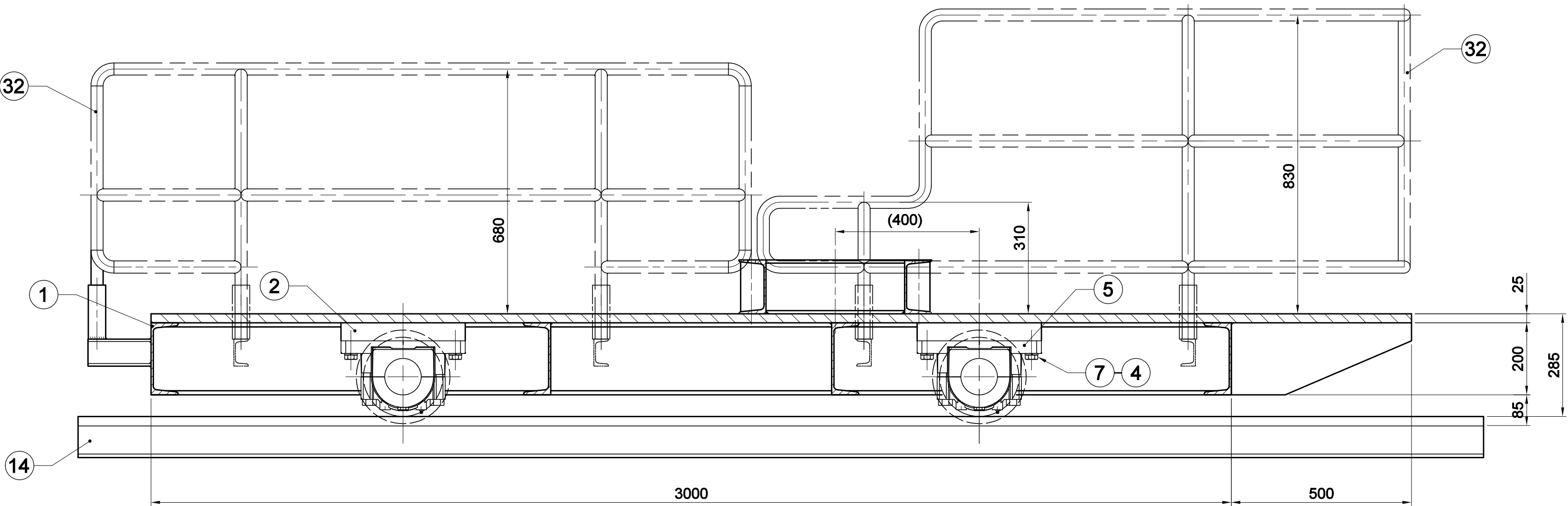
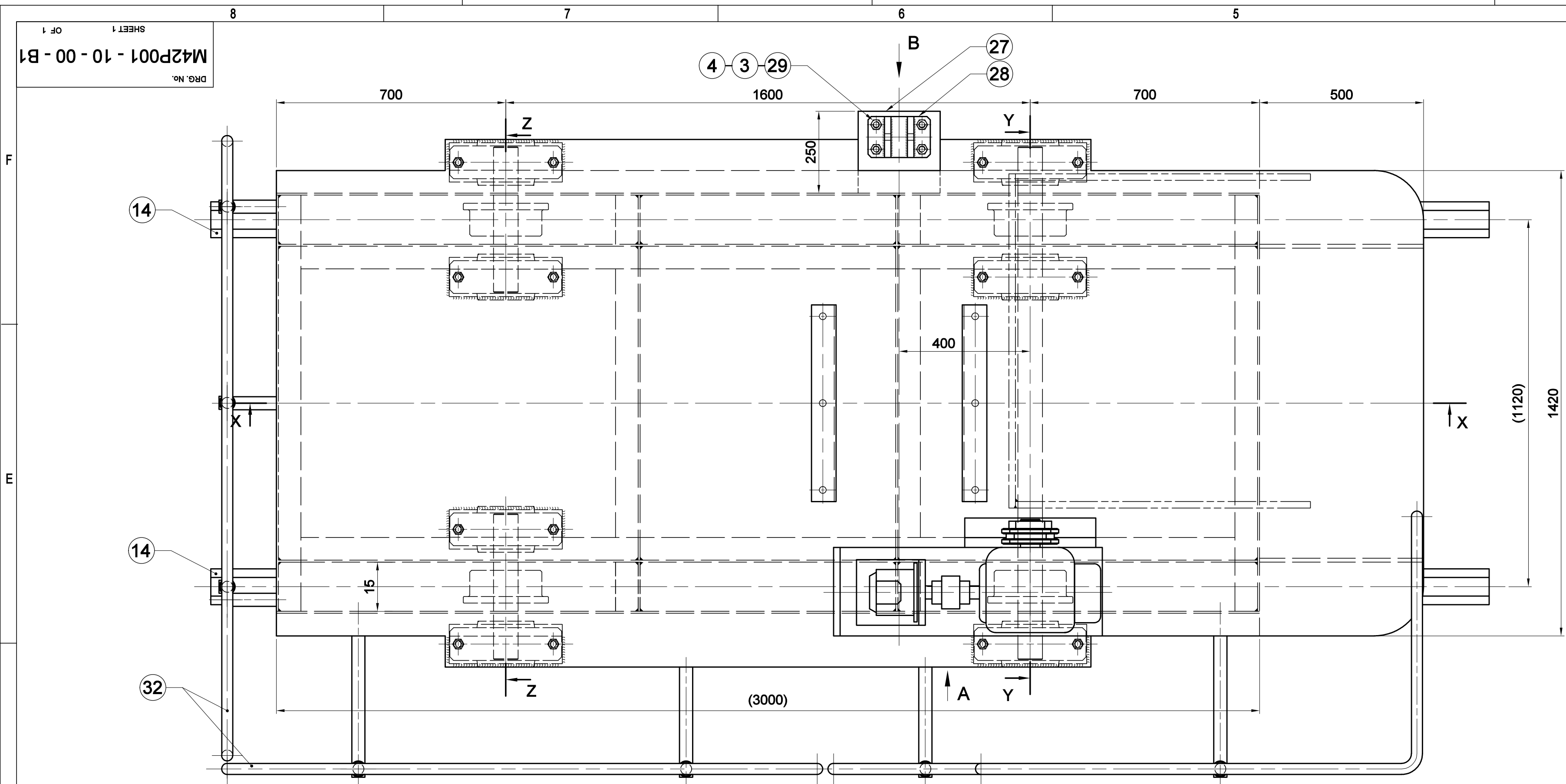
NOTE: 1.ALL DIMENSIONS ARE IN mm .U.O.S.
2.REMOVE BURRS & SHARP CORNERS
3.FREE MEASURE TOLERANCE SHOULD BE AS PER MEDIUM IS:2102 - 1969 U.O.S.
4.FOLLOW RELEVANT INDIAN STANDARDS FOR MANUFACTURE
5.DO NOT SCALE DRAWING.
6.ASK, IF IN DOUBT.



SPECIFICATION

- 1). CYLINDER BORE : Ø50
- 2). PISTON ROD : Ø36
- 3). STROKE : 1250
- 4). WORKING PRESSURE : 200 bar

| | | | | | | | |
|---------------------------------------|----------|---|--|---------|------------|-------|------------------------|
| SI.No. | DRG. No. | DESCRIPTION | MATERIAL | No. OFF | PER PCE. | TOTAL | REMARKS |
| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | DEPT. : AUTO GRINDING SHOP | | WEIGHT kg. | | |
| W.O.No. : 16 - 1 - 122 | | | TOTAL Wt. kg | | | | |
| NAME | | DATE | Mishra Dhatu Nigam Ltd SUPER ALLOYS PLANT HYDERABAD | | | | |
| DESIGNED | | | | | | | |
| DRAWN | | ASP 06/04/17 | | | | | |
| CHECKED | | | | | | | |
| APPROVED | | | SURPERSEDES | | | | |
| FINISH ▽ IF NOT SHOWN | | SURFACE FINISH IN µm AS PER IS:696 - 1972 | | | | | SURPERSEDED BY |
| SCALE - 1 : 5 | | TITLE | | | | | DRG. No. |
| HYD. CYLINDER BORE-Ø2" | | STROKE - 1250 (HOZ.) | | | | | M42P001 - 02 - 03 - B4 |
| SHEET 1 | | OF 1 | | | | | |



| | | | | | | | | |
|-------|------------------------|---|---------------------|---------|---------|------------------|---------|--|
| 32 | M42P001 - 10 - 09 - A2 | RAILING | St 42S, IS : 226-75 | 1 | - | - | - | |
| 31 | IS : 549 | SPLIT PIN 5 x 45 | St 42S, IS : 226-75 | 1 | - | - | - | |
| 30 | M42P001 - 10 - 08 - B4 | PIN | 40Ni2 Cr1 Mo28 | 1 | - | - | - | |
| 29 | IS : 1364-3 | HEX. NUT M20 | St 42S, IS : 226-75 | 4 | - | - | - | |
| 28 | M42P001 - 10 - 07 - B3 | HYD. CYL. CONNECTING BRACKET - VERTICAL | St 42S, IS : 226-75 | 1 | - | - | - | |
| 27 | - | ISM 250 x 250 LG. | St 42S, IS : 226-75 | 1 | - | - | - | |
| 26 | - | PLAIN WASHER OD85 x ID 72 x 10 | - | 6 | - | - | - | |
| SLNo. | DRG. No. | DESCRIPTION | MATERIAL | No. OFF | PER PCH | TOTAL WEIGHT kg. | REMARKS | |

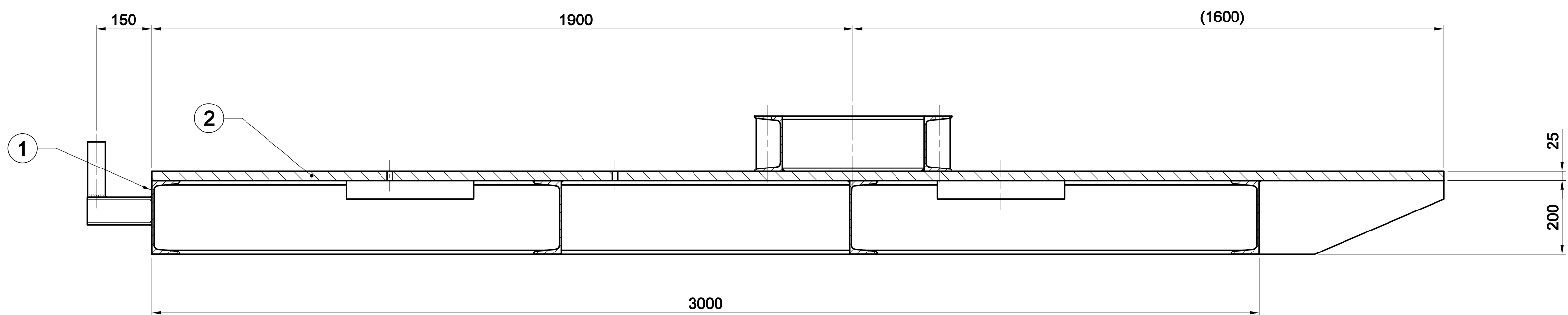
NOTE:
1. ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED.
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3. FREE MEASURE TOLERANCE SHOULD BE AS PER MEDIUM IS:2102-1969 UNLESS OTHERWISE SPECIFIED.
4. FOLLOW RELEVANT INDIAN STANDARDS FOR MANUFACTURE
5. DO NOT SCALE DRAWING.
6. ASK IF IN DOUBT.

| | | | | | | | | |
|-------|--|---|---------------------|---------|---------|------------------|---------|-------------------------|
| 25 | SKF | LOCK WASHER BM14 | - | 6 | - | - | - | |
| 24 | SKF | CHECK NUT KM14 M70 x 2 | - | 6 | - | - | - | |
| 23 | - | 1" PITCH DUPLEX ROLLER CHAIN WITH GUARD | - | 1 | - | - | - | |
| 22 | - | 1" PITCH, 14 TEETH DUPLEX SPROCKET | - | 1 | - | - | - | |
| 21 | - | FLEXIBLE COUPLING L - 150 | - | 1 | - | - | - | |
| 20 | PREMIUM MAKE U400 | WORM REDUCTION GEAR BOX 4" - 20 : 1 | - | 1 | - | - | - | |
| 19 | M42P001 - 10 - 11 - A3 | HYDRAULIC MOTOR BRACKET | - | 1 | - | - | - | AS PER HYD. MOTOR |
| 18 | DANFOSS | HYDRAULIC MOTOR OMS - 125, Code No:151F0502 | - | 1 | - | - | - | |
| 17 | - | MOUNTING BRACKET | - | 1 | - | - | - | AS PER GEAR BOX & MOTOR |
| 16 | - | KEY 20 x 12 x 70 LG. | St 42S, IS : 226-75 | 1 | - | - | - | |
| 15 | - | 1" PITCH, 20 TEETH DUPLEX SPROCKET ID75 x 70 WIDE | - | 1 | - | - | - | |
| 14 | - | RAIL LBS 60 x LG. | - | 2 | - | - | - | NOT IN SCOPE OF SUPPLY |
| 13 | M42P001 - 10 - 06 - A4 | SPACER - 2 OF S.No - 2 | St 42S, IS : 226-75 | 1 | - | - | - | |
| 12 | M42P001 - 10 - 06 - A4 | SPACER - 1 OF S.No - 1 | St 42S, IS : 226-75 | 7 | - | - | - | |
| 11 | M42P001 - 10 - 05 - A3 | SHAFT Ø85x 1564 | 40 Ni2 Cr1 Mo28 | 1 | - | - | - | |
| 10 | - | KEY 20 x 12 x 100 LG. | St 42S, IS : 226-75 | 4 | - | - | - | |
| 9 | M42P001 - 10 - 04 - A4 | WHEEL Ø260 x 100 | St 42S, IS : 226-75 | 4 | - | - | - | |
| 8 | M42P001 - 10 - 03 - A4 | SHAFT Ø75x 444 | 40 Ni2 Cr1 Mo28 | 2 | - | - | - | |
| 7 | IS : 1364 - 1 | HEX. HD BOLT M20 x 65 | St 42S, IS : 226-75 | 14 | - | - | - | |
| 6 | FAG SNV160-F-L-21315+FRM160/14(2-No's)+FSV315 (2-No's) | PLUMMER BLOCK WITH SPHERICAL ROLLER BEARING etc. | - | 1 | - | - | - | |
| 5 | FAG SNV160-F-L-21315+FRM160/14(2-No's)+FSV315+DKV160 | PLUMMER BLOCK WITH SPHERICAL ROLLER BEARING etc. | - | 6 | - | - | - | |
| 4 | IS : 3063 | SPRING WASHER 22 | St 42S, IS : 226-75 | 18 | - | - | - | |
| 3 | IS : 1364 - 2 | HEX. HD. BOLT M20 x 55 | St 42S, IS : 226-75 | 4 | - | - | - | |
| 2 | M42P001 - 10 - 02 - A4 | FIXING PLATE FOR PLUMMER BLOCK 345 x 140 x 50 | St 42S, IS : 226-75 | 7 | - | - | - | WELD WITH S.No - 1 |
| 1 | M42P001 - 10 - 01 - B1 | BASE STRUCTURE | St 42S, IS : 226-75 | 1 | - | - | - | |
| SLNo. | DRG. No. | DESCRIPTION | MATERIAL | No. OFF | PER PCH | TOTAL WEIGHT kg. | REMARKS | |

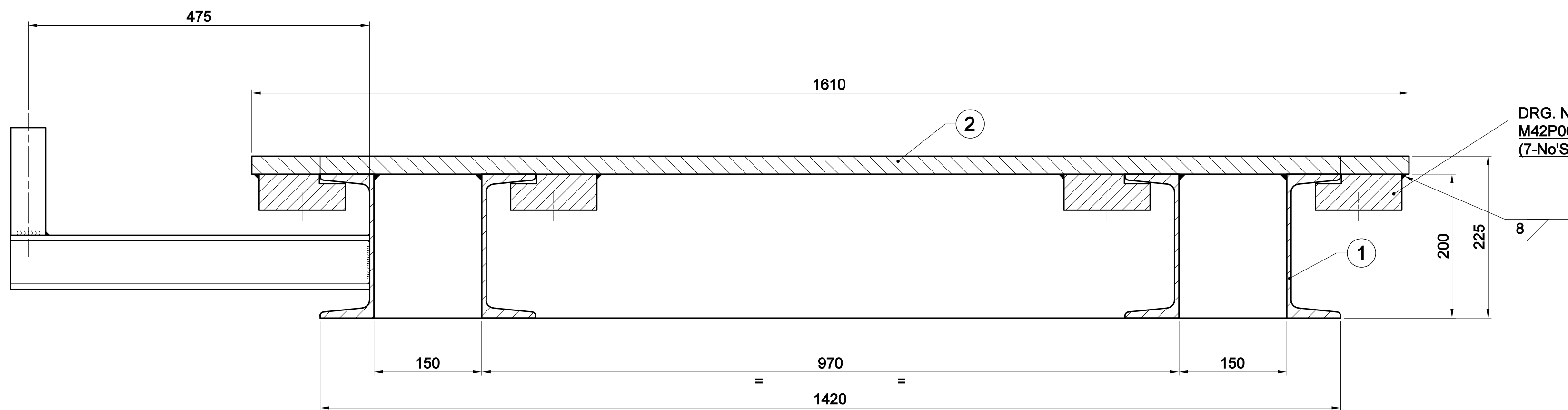
| | | | | | |
|--|--|----------------------------|--|---|--|
| EQUIP. : AUTO BILLET GRINDER (MIDHANI) | | DEPT. : AUTO GRINDING SHOP | | TOTAL Wt. kg. | |
| W.O.No. : 18 - 2 - 032 | | NAME | | DATE | |
| DESIGNED | | DRN | | 29-05-18 | |
| CHD/COMP | | TITLE | | DRG. No. | |
| APPROVED | | FINISH N IF NOT SHOWN | | SURFACE FINISH IN mm AS PER IS:696 - 1972 | |
| SCALE - 1 : 10 | | TROLLEY DRIVE | | M42P001 - 10 - 00 - B1 | |
| SHEET 1 | | OF 1 | | | |

| | | | | | | | | |
|----------|------|----------|--------------|---------------------------------------|-----|------------|----------|--------------------|
| B | - | 29-05-18 | 18 - 2 - 032 | S.No - 1 DRG. REVISED & S.No 32 ADDED | ASP | SASIDHARAN | DRG. No: | DESCRIPTION |
| No. | ZONE | DATE | W.O.No. | REMARKS | BY | APPD | | REFERENCE DRAWINGS |
| REVISION | | | | | | | | |

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SECTION - 'YY'
(SCALE - 1 : 5)

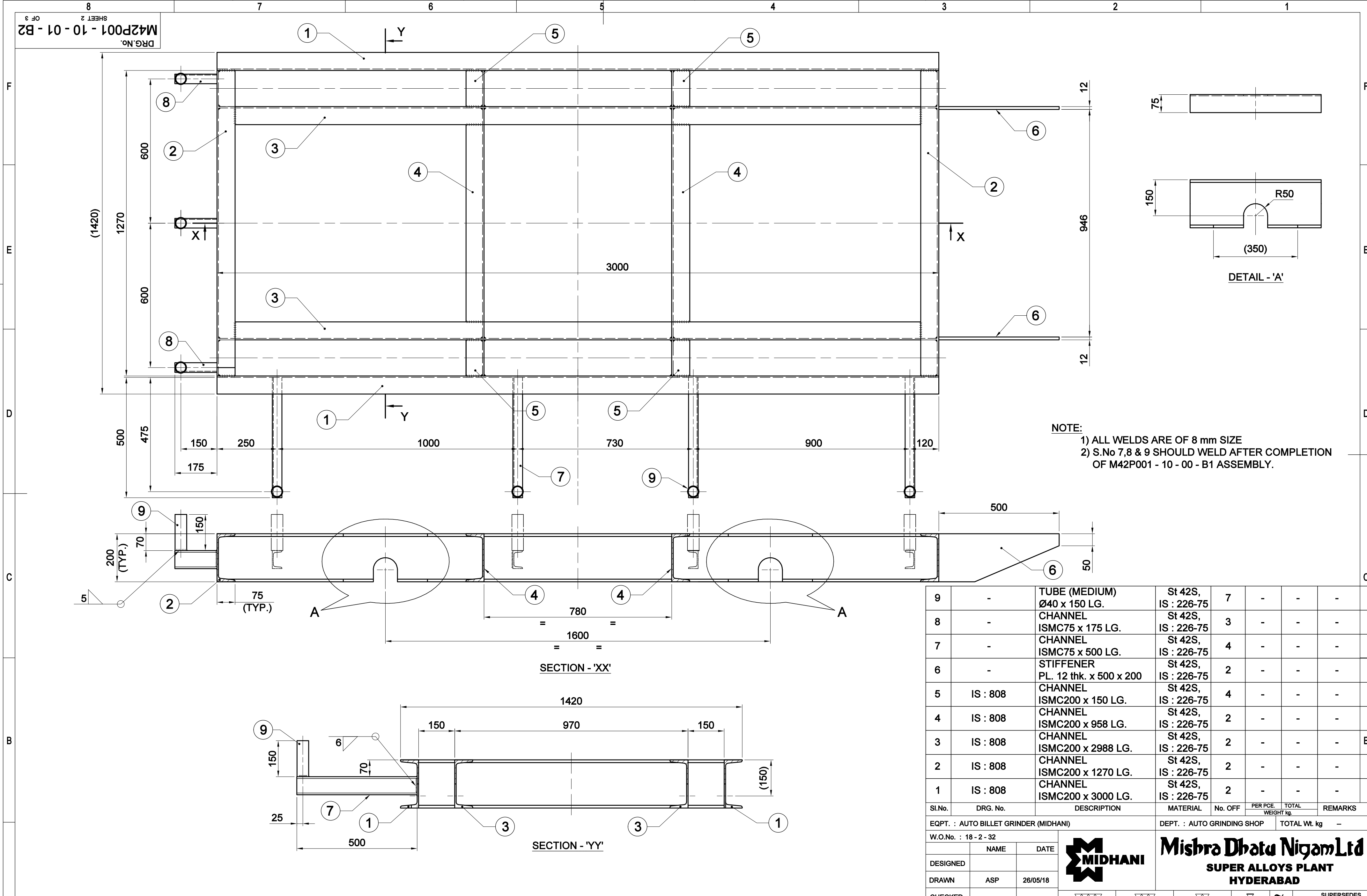


NOTE:
ALL WELDS ARE OF 8 mm SIZE

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NOTE:

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5. DO NOT SCALE DRAWING.
6. ASK IF IN DOUBT.

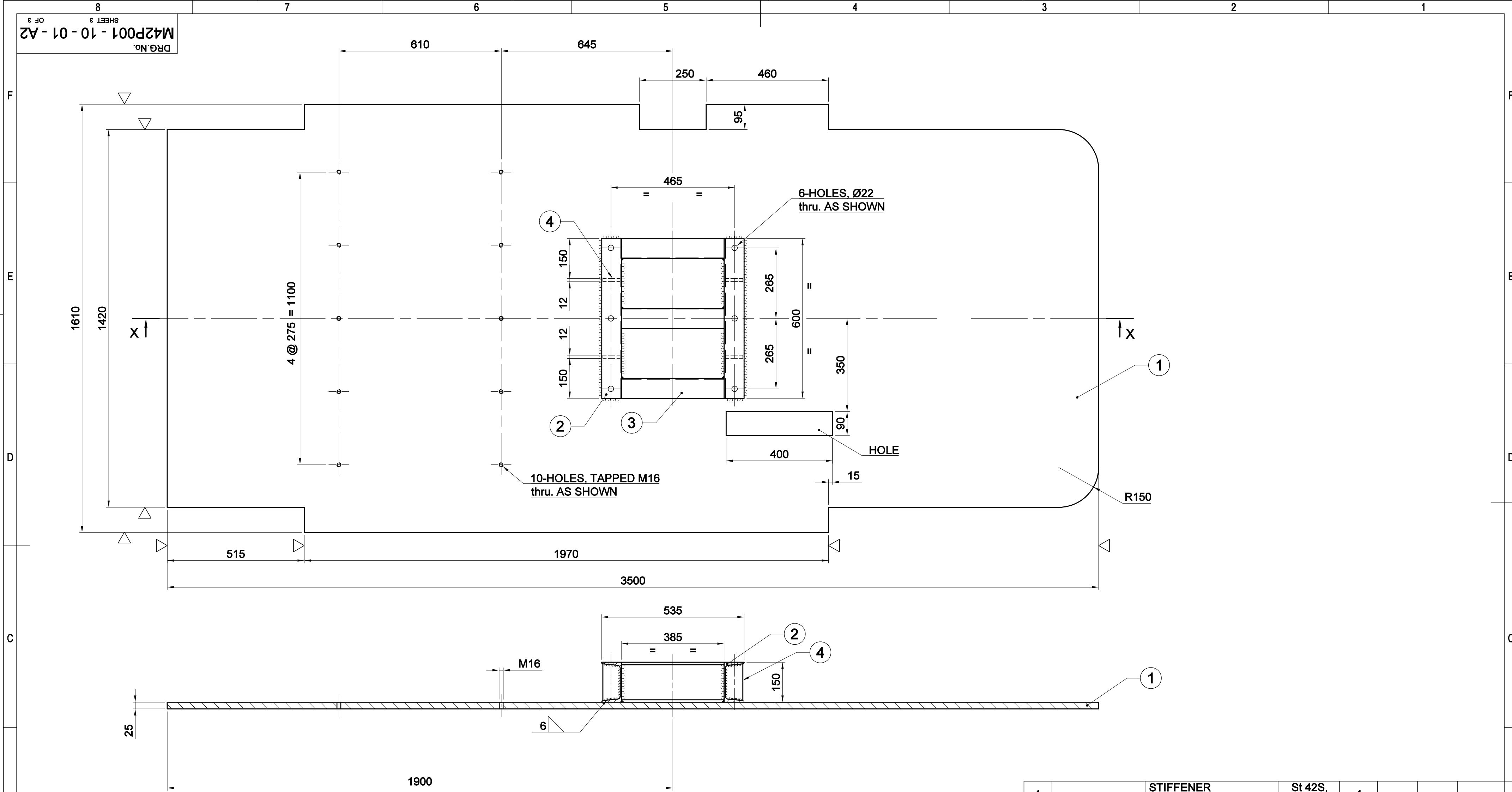


| | | | | | |
|----------|----------|--------------|----------------------|-----|------------|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| B | 26-05-18 | 18 - 2 - 032 | S.No 7, 8 & 9 ADDED. | ASP | SASIDHARAN |
| No. | DATE | W.O.No. | REMARKS | BY | APPD |
| REVISION | | | REF. DRG. No. | | |

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NOTE:
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5. DO NOT SCALE DRAWING.
6. ASK IF IN DOUBT.

| | | | | | | | | | |
|---------------------------------------|----------|---|---|---|----------|----------------|-----|------------------------|----------|
| 9 | - | TUBE (MEDIUM) Ø40 x 150 LG. | St 42S, IS : 226-75 | 7 | - | - | - | | |
| 8 | - | CHANNEL ISM75 x 175 LG. | St 42S, IS : 226-75 | 3 | - | - | - | | |
| 7 | - | CHANNEL ISM75 x 500 LG. | St 42S, IS : 226-75 | 4 | - | - | - | | |
| 6 | - | STIFFENER PL. 12 thk. x 500 x 200 | St 42S, IS : 226-75 | 2 | - | - | - | | |
| 5 | IS : 808 | CHANNEL ISM200 x 150 LG. | St 42S, IS : 226-75 | 4 | - | - | - | | |
| 4 | IS : 808 | CHANNEL ISM200 x 958 LG. | St 42S, IS : 226-75 | 2 | - | - | - | | |
| 3 | IS : 808 | CHANNEL ISM200 x 2988 LG. | St 42S, IS : 226-75 | 2 | - | - | - | E | |
| 2 | IS : 808 | CHANNEL ISM200 x 1270 LG. | St 42S, IS : 226-75 | 2 | - | - | - | | |
| 1 | IS : 808 | CHANNEL ISM200 x 3000 LG. | St 42S, IS : 226-75 | 2 | - | - | - | | |
| SI.No. | DRG. No. | DESCRIPTION | MATERIAL | No. OFF | PER PCE. | TOTAL WEIGHT | kg. | REMARKS | |
| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | DEPT. : AUTO GRINDING SHOP | | | TOTAL Wt. kg - | | | |
| W.O.No. : 18 - 2 - 32 | |  |  Mishra Dhatu Nigam Ltd SUPER ALLOYS PLANT HYDERABAD | | | | | | |
| DESIGNED | NAME | | | | | | | | DATE |
| DRAWN | ASP | | | | | | | | 26/05/18 |
| CHECKED | | | | | | | | | |
| APPROVED | | | | | | | | | |
| FINISH ▽ IF NOT SHOWN | | SURFACE FINISH IN um AS PER IS:696 - 1972 | | | | | | | |
| SCALE - 1 : 10 | | TITLE | |  | | | | DRG. No. | |
| | | | | | | | | M42P001 - 10 - 01 - B2 | |
| | | BASE FRAME (FOR TROLLEY DRIVE) | | | | SHEET 2 OF 3 | | | |





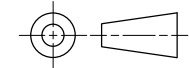
SECTION - 'XX'

- NOTE:
- 1). ALL WELDS ARE OF 8 mm SIZE.
 - 2). * HOLES TO BE DRILLED AFTER WELDING OF BASE PLATE TO BASE FRAME.

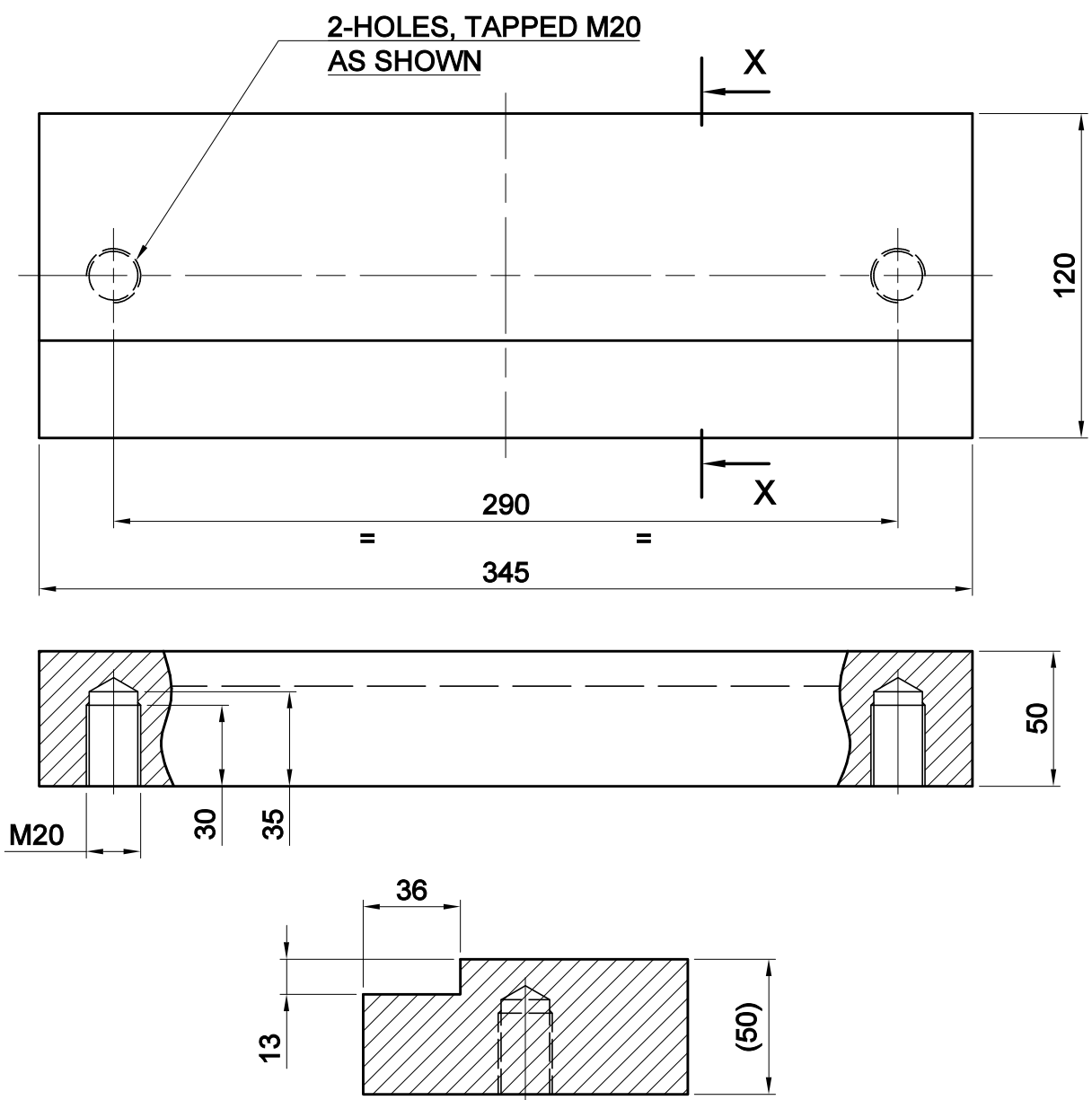
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|----------|------|---------|---------|---------------|------|--|
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| No. | DATE | W.O.No. | REMARKS | BY | APPD | |
| REVISION | | | | REF. DRG. No. | | |

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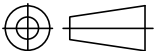
- NOTE:
- 1. ALL DIMENSIONS ARE IN mm . U.O.S.
 - 2. REMOVE BURRS & SHARP CORNERS
 - 3. FREE MEASURE TOLERANCE SHOULD BE AS PER MEDIUM IS:2102 - 1969 U.O.S.
 - 4. FOLLOW RELEVANT INDIAN STANDARDS FOR MANUFACTURE
 - 5. DO NOT SCALE DRAWING.
 - 6. ASK IF IN DOUBT.

| | | | | | | | | | |
|---|----------|---|---|---------|------------------------------|---|---------|---|----------|
| 4 | - | STIFFENER PL. 138 x 65 x 12 thk. | St 42S, IS : 226-75 | 4 | - | - | - | | |
| 3 | IS : 808 | CHANNEL ISMC150 x 385 LG. | St 42S, IS : 226-75 | 3 | - | - | - | E | |
| 2 | IS : 808 | CHANNEL ISMC150 x 600 LG. | St 42S, IS : 226-75 | 2 | - | - | - | | |
| 1 | IS : 808 | PLATE 3500 x 1610 x 25 | St 42S, IS : 226-75 | 1 | - | - | - | | |
| SI.No. | DRG. No. | DESCRIPTION | MATERIAL | No. OFF | PER PCE. TOTAL WEIGHT kg. | | REMARKS | | |
| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | DEPT. : AUTO GRINDING SHOP | | TOTAL Wt. kg - | | | | |
| W.O.No. : 16 - 1 - 122 | |  |  | | | | | | |
| DESIGNED | NAME | | | | | | | | DATE |
| DRAWN | ASP | | | | | | | | 21/01/17 |
| CHECKED | | | | | | | | | |
| APPROVED | | | | | | | | | |
| FINISH ▽ IF NOT SHOWN | | SURFACE FINISH IN um AS PER IS:696 - 1972 | | | | | | | |
| SCALE - 1 : 10 | | TITLE | | | DRG. No. | | | | |
|  | | BASE PLATE (FOR TROLLEY DRIVE) | | | M42P001 - 10 - 01 - A2 | | | | |
| | | | | | SHEET 3 OF 3 | | | | |

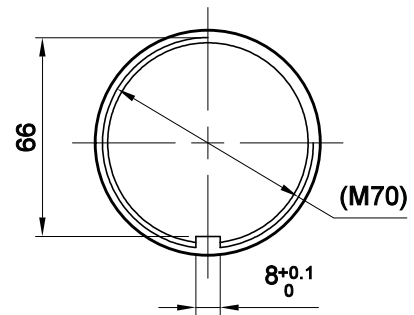
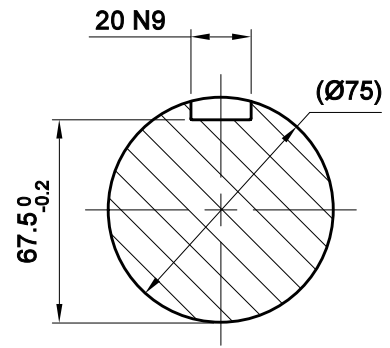
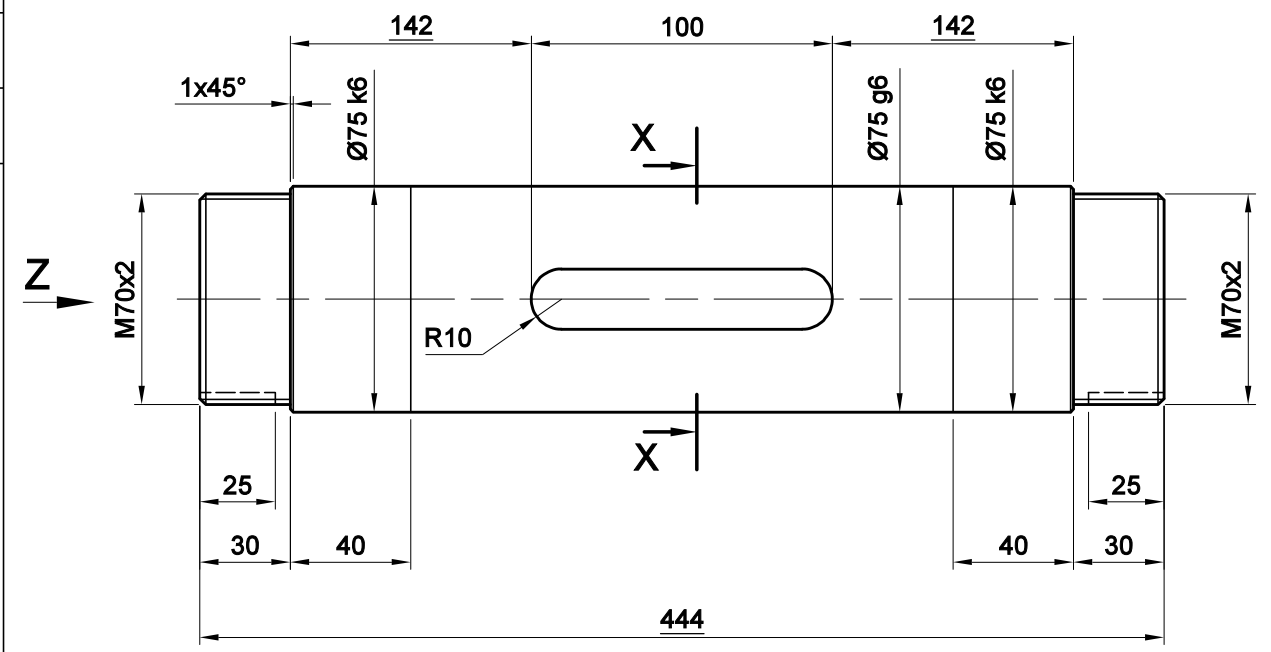
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5.DO NOT SCALE DRAWING.
6.ASK, IF IN DOUBT.



MAT'L.: St 42S, IS : 226 - 75

| SI.No. | | DRG. No. | | DESCRIPTION | | | | | | MATERIAL | | No. OFF | | PER PCE. | | TOTAL | | REMARKS | | | | | | | | | | | | | | | | | |
|---|--|----------|--|---|--|---|--|------|--|---|--|---------|--|----------|--|--------------|--|------------------------|--|-----|--|----------|--|------|--|----|--|----|--|---------------|--|-----|--|-----|--|
| | | | | | | | | | | | | | | WEIGHT | | kg. | | | | | | | | | | | | | | | | | | | |
| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | | | | | | | | DEPT. : AUTO GRINDING SHOP | | | | | | TOTAL Wt. kg | | | | | | | | | | | | | | | | | | | |
| W.O.No. : 16 - 1 - 122 | | | |  | | | | | |  SUPER ALLOYS PLANT HYDERABAD | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | NAME | | | | | | | | | | | | | | | | | | | | DATE | | | | | | | | | | | | | |
| DESIGNED | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DRAWN | | ASP | | | | | | | | | | | | | | | | | | | | 21/01/17 | | | | | | | | | | | | | |
| CHECKED | | | | | | ▽▽▽ | | ▽▽▽ | | ▽▽ | | ▽ | | ~ | | SUPERSEDES | | | | | | | | | | | | | | | | | | | |
| APPROVED | | | | | | N1 | | N2 | | N3 | | N4 | | N5 | | | | | | | | N6 | | N7 | | N8 | | N9 | | N10 | | N11 | | N12 | |
| | | | | | | 0.025 | | 0.05 | | 0.1 | | 0.2 | | 0.4 | | 0.8 | | 1.6 | | 3.2 | | 6.3 | | 12.5 | | 25 | | 50 | | SUPERSEDED BY | | | | | |
| FINISH ▽ IF NOT SHOWN | | | | | | SURFACE FINISH IN μm AS PER IS:696 - 1972 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SCALE - 1 : 2.5 | | | TITLE | | | | | | | | | | | | | | | DRG. No. | | | | | | | | | | | | | | | | | |
|  | | | <div><div>FIXING PLATE</div><div>(FOR PLUMMER BLOCK)</div></div> | | | | | | | | | | | | | | | M42P001 - 10 - 02 - A4 | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | SHEET 1 | | | | | | OF 1 | | | | | | | | | | | |


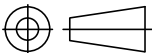
NOTE: 1.ALL DIMENSIONS ARE IN mm .U.O.S.
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5.DO NOT SCALE DRAWING.
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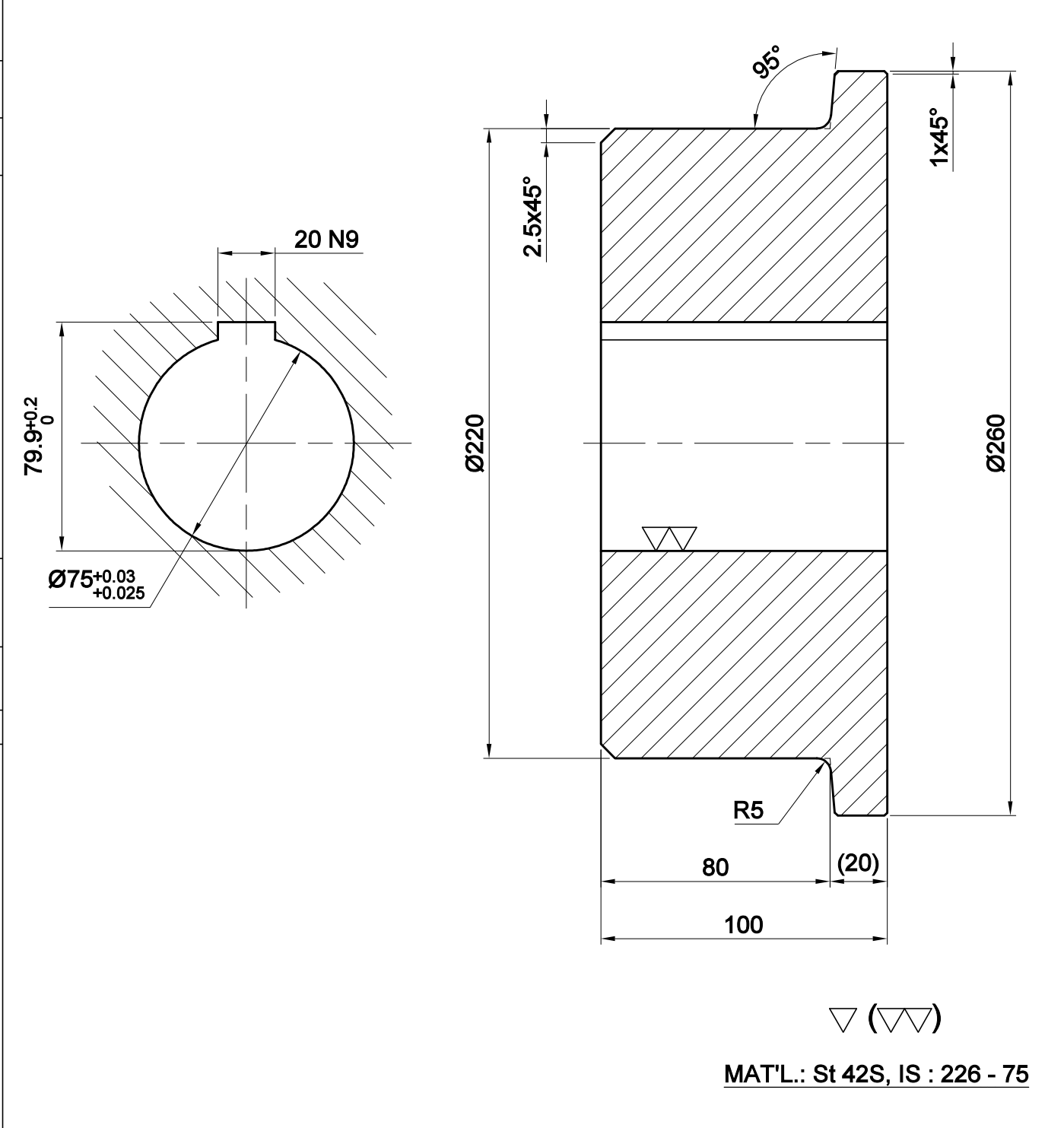
SECTION - 'XX'

VIEW - 'Z'

MAT'L.: 40 Ni2 Cr1 Mo28


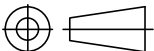
| SI.No. | | DRG. No. | | DESCRIPTION | | | | | | MATERIAL | | No. OFF | | PER PCE. | | TOTAL | | REMARKS | | | | | | | | | | | | | |
|---|--|--|--|---|--|-------|--|------|--|--|--|---------|--|------------|--|--------------|--|---------|--|-----|--|------------|--|------|--|-----|--|-----|--|---------------|--|
| | | | | | | | | | | | | | | WEIGHT kg. | | | | | | | | | | | | | | | | | |
| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | | | | | | | | DEPT. : AUTO GRINDING SHOP | | | | | | TOTAL Wt. kg | | | | | | | | | | | | | | | |
| W.O.No. : 16 - 1 - 122 | | | |  | | | | | | <div>Mishra Dhatu Nigam Ltd</div> <div>SUPER ALLOYS PLANT</div> <div>HYDERABAD</div> | | | | | | | | | | | | | | | | | | | | | |
| | | NAME | | | | | | | | | | | | | | | | | | | | DATE | | | | | | | | | |
| DESIGNED | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DRAWN | | ASP | | | | | | | | | | | | | | | | | | | | 12-01-17 | | | | | | | | | |
| CHECKED | | | | | | ▽▽▽ | | | | ▽▽▽ | | | | ▽▽ | | | | ▽ | | ~ | | SUPERSEDES | | | | | | | | | |
| APPROVED | | | | | | N1 | | N2 | | N3 | | N4 | | N5 | | N6 | | N7 | | N8 | | | | N9 | | N10 | | N11 | | N12 | |
| | | | | | | 0.025 | | 0.05 | | 0.1 | | 0.2 | | 0.4 | | 0.8 | | 1.6 | | 3.2 | | 6.3 | | 12.5 | | 25 | | 50 | | SUPERSEDED BY | |
| FINISH ▽ IF NOT SHOWN | | | | SURFACE FINISH IN μm AS PER IS:696 - 1972 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SCALE - 1 : 2.5 | | TITLE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | <div>SHAFT Ø75 x 444</div> <div>(FOR TROLLEY DRIVE)</div> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | <div>DRG. No.</div> <div>M42P001 - 10 - 03 - A4</div> <div>SHEET 1</div> <div>OF 1</div> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

NOTE: 1.ALL DIMENSIONS ARE IN mm .U.O.S.
2.REMOVE BURRS & SHARP CORNERS
3.FREE MEASURE TOLERANCE SHOULD BE AS PER MEDIUM IS:2102 - 1969 U.O.S.
4.FOLLOW RELEVANT INDIAN STANDARDS FOR MANUFACTURE
5.DO NOT SCALE DRAWING.
6.ASK, IF IN DOUBT.

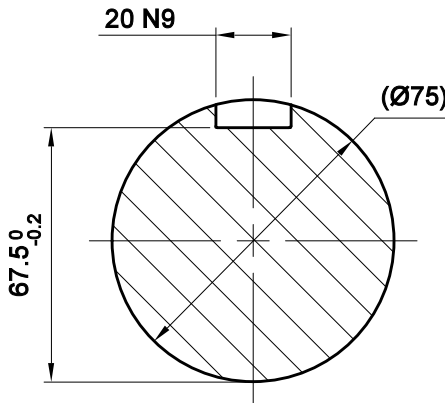
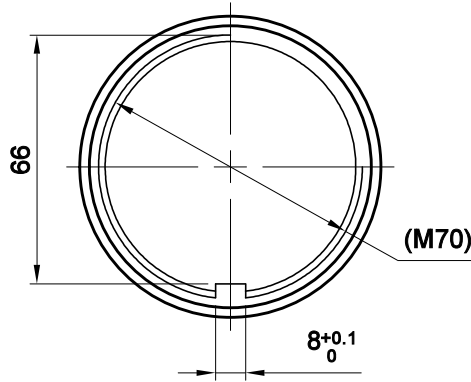
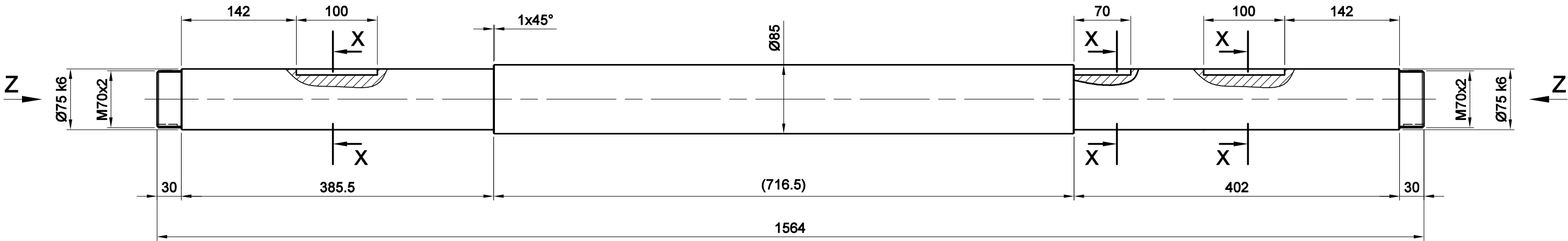


▽ (▽▽)

MAT'L.: St 42S, IS : 226 - 75

| SI.No. | | DRG. No. | | DESCRIPTION | | | | | | MATERIAL | | No. OFF | | PER PCE. TOTAL WEIGHT kg. | | REMARKS | | | | | | | | | | | | | | | |
|---|--|---|--|---|--|-------|--|----------------------------|--|--|--|---------|--|---------------------------|--|-----------------------------------|--|-----|--|----------|--|------|--|------|--|-----|--|-----|--|---------------|--|
| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | | | | | | DEPT. : AUTO GRINDING SHOP | | | | | | TOTAL Wt. kg | | | | | | | | | | | | | | | | | |
| W.O.No. : 16 - 1 - 122 | | | |  | | | | | | <div>Mishra Dhatu Nigam Ltd</div> <div>SUPER ALLOYS PLANT</div> <div>HYDERABAD</div> | | | | | | | | | | | | | | | | | | | | | |
| | | NAME | | | | | | | | | | | | | | | | | | DATE | | | | | | | | | | | |
| DESIGNED | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DRAWN | | ASP | | | | | | | | | | | | | | | | | | 31-10-16 | | | | | | | | | | | |
| CHECKED | | | | | | ▽▽▽ | | ▽▽▽ | | ▽▽ | | ▽ | | ~ | | SUPERSEDES | | | | | | | | | | | | | | | |
| | | | | | | N1 | | N2 | | N3 | | N4 | | N5 | | | | N6 | | N7 | | N8 | | N9 | | N10 | | N11 | | N12 | |
| APPROVED | | | | | | 0.025 | | 0.05 | | 0.1 | | 0.2 | | 0.4 | | 0.8 | | 1.6 | | 3.2 | | 6.3 | | 12.5 | | 25 | | 50 | | SUPERSEDED BY | |
| FINISH ▽ IF NOT SHOWN | | | | SURFACE FINISH IN μm AS PER IS:696 - 1972 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SCALE - 1 : 2 | | TITLE | | | | | | | | | | | | | | DRG. No. | | | | | | | | | | | | | | | |
|  | | <div>WHEEL</div> <div>(FOR TROLLEY DRIVE)</div> | | | | | | | | | | | | | | <div>M42P001 - 10 - 04 - A4</div> | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | SHEET 1 | | | | | | OF 1 | | | | | | | | | |

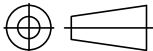
THIS DRAWING IS THE PROPERTY OF M/s MISHRA DHATU NIGAM LTD. AND SHOULD NOT BE GIVEN OR HANDED OVER OR DIVULGED TO ANY OTHER PERSON WITHOUT THE EXPRESS PERMISSION OF THE COMPANY IN WRITING. THE MATTER GIVEN ON THIS DRAWING IS TO BE TREATED AS STRICTLY CONFIDENTIAL.



MAT'L.: 40Ni2 Cr1 Mo28

| | | | | | |
|----------|------|---------|---------|---------------|------|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| No. | DATE | W.O.No. | REMARKS | BY | APPD |
| REVISION | | | | REF. DRG. No. | |

- NOTE:
1. ALL DIMENSIONS ARE IN mm .U.O.S.
 2. REMOVE BURRS & SHARP CORNERS
 3. FREE MEASURE TOLERANCE SHOULD BE AS PER MEDIUM IS:2102 - 1969 U.O.S.
 4. FOLLOW RELEVANT INDIAN STANDARDS FOR MANUFACTURE
 5. DO NOT SCALE DRAWING.
 6. ASK, IF IN DOUBT.

| Sl.No. | DRG. No. | DESCRIPTION | | | | | | | | | MATERIAL | No. OFF | PER PCE. | TOTAL | REMARKS | | | | | |
|---|----------|--|---|------|-----|-----|-----|-----|-----|-----|----------------------------|---------|----------|--------------|------------------------|------------|--|--|--|--|
| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | | | | | | | | | DEPT. : AUTO GRINDING SHOP | | | TOTAL Wt. kg | | | | | | |
| W.O.No. : 16 - 1 - 122 | | | <div><div>MIDHANI</div><div>Mishra Dhatu Nigam Ltd</div><div>SUPER ALLOYS PLANT</div><div>HYDERABAD</div></div> | | | | | | | | | | | | | | | | | |
| | NAME | DATE | | | | | | | | | | | | | | | | | | |
| DESIGNED | | | | | | | | | | | | | | | | | | | | |
| DRAWN | ASP | 12/01/17 | | | | | | | | | | | | | | | | | | |
| CHECKED | | | | | | | | | | | | | | | | | | | | |
| APPROVED | | | ▽▽▽▽ | | | ▽▽▽ | | | ▽▽ | | | ▽ | | ~ | | SUPERSEDES | | | | |
| | | | N1 | N2 | N3 | N4 | N5 | N6 | N7 | N8 | N9 | N10 | N11 | N12 | | | | | | |
| | | | 0.025 | 0.05 | 0.1 | 0.2 | 0.4 | 0.8 | 1.6 | 3.2 | 6.3 | 12.5 | 25 | 50 | SUPERSEDED BY | | | | | |
| FINISH ▽ IF NOT SHOWN | | | SURFACE FINISH IN um AS PER IS:696 - 1972 | | | | | | | | | | | | | | | | | |
| SCALE - 1 : 5, 1 : 2 | | TITLE | | | | | | | | | | | | | DRG. No. | | | | | |
|  | | <div>SHAFT Ø75 x 1564</div> <div>(FOR TROLLEY DRIVE)</div> | | | | | | | | | | | | | M42P001 - 10 - 05 - A3 | | | | | |
| | | | | | | | | | | | | | | | SHEET 1 OF 1 | | | | | |

NOTE: 1.ALL DIMENSIONS ARE IN mm .U.O.S.
2.REMOVE BURRS & SHARP CORNERS
3.FREE MEASURE TOLERANCE SHOULD BE AS PER MEDIUM IS:2102 - 1969 U.O.S.
4.FOLLOW RELEVANT INDIAN STANDARDS FOR MANUFACTURE
5.DO NOT SCALE DRAWING.
6.ASK, IF IN DOUBT.

REF. DRG. No.

REVISION REMARKS

BY

APPD

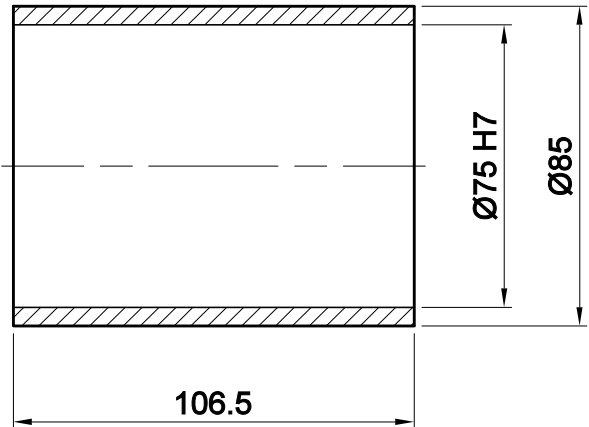
W.O.No.

DATE

No.

1

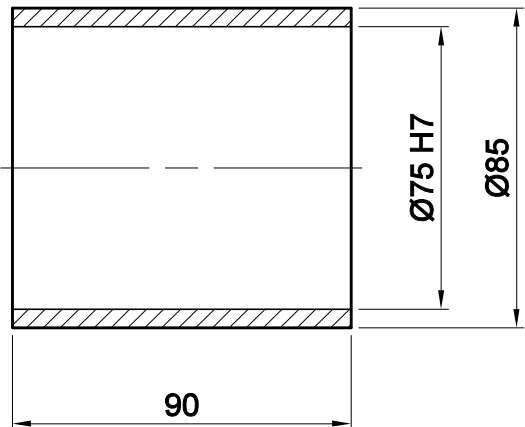
SPACER - 1




MAT'L.: St 42S, IS : 226 - 75

2

SPACER - 2

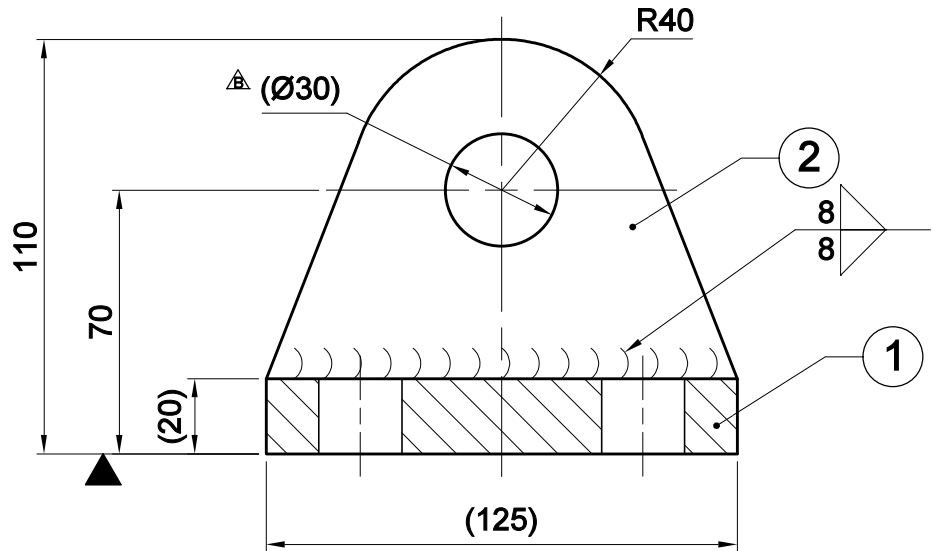
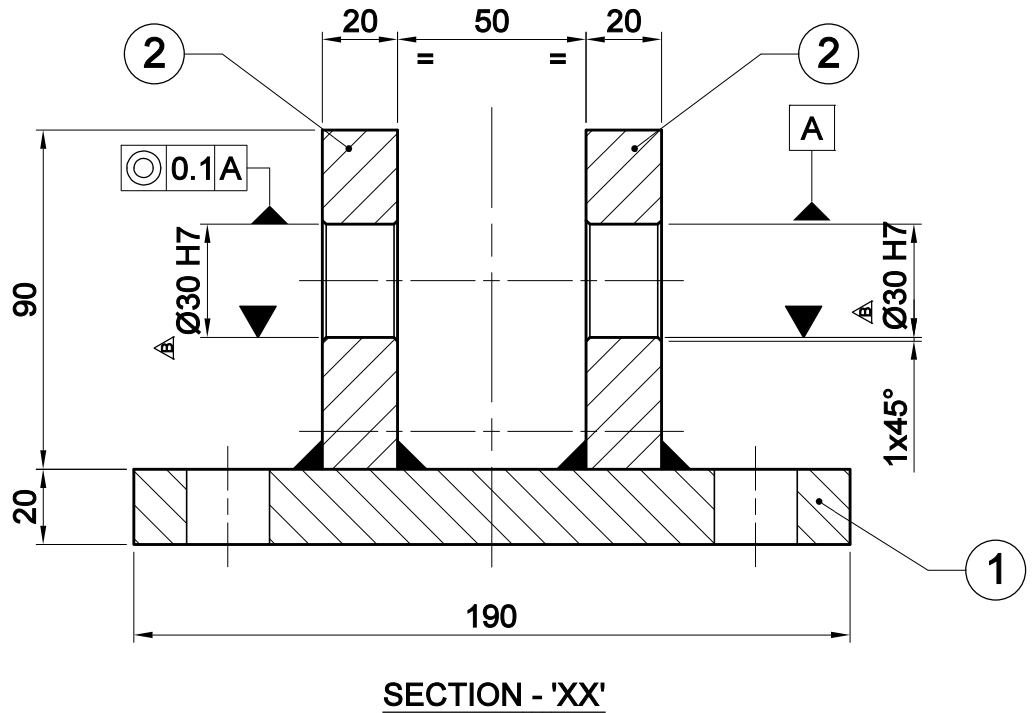
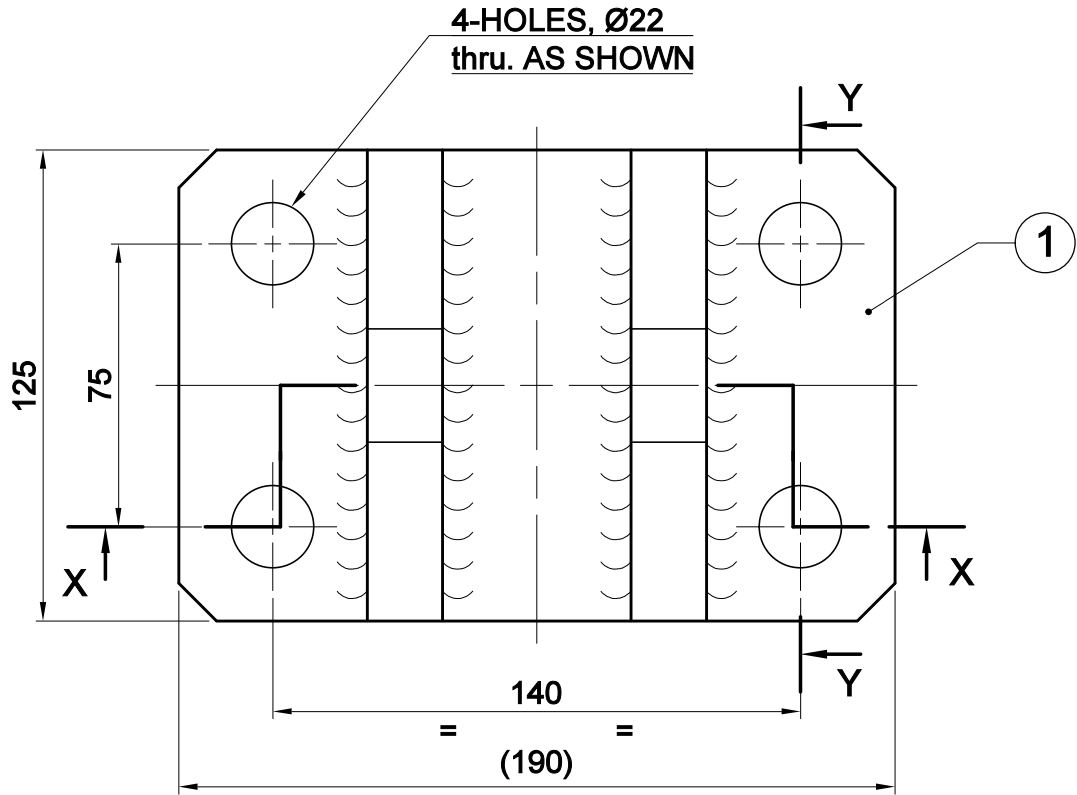


MAT'L.: St 42S, IS : 226 - 75

| | | | | | | | | |
|---------------------------------------|----------|-------------|--|---------|------------|-------|---------|---------------|
| Sl.No. | DRG. No. | DESCRIPTION | MATERIAL | No. OFF | PER PCE. | TOTAL | REMARKS | |
| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | DEPT. : AUTO GRINDING SHOP | | WEIGHT kg. | | | |
| W.O.No. : 16 - 1 - 122 | | | TOTAL Wt. kg | | | | | |
| DESIGNED | NAME | DATE |  Mishra Dhatu Nigam Ltd SUPER ALLOYS PLANT HYDERABAD | | | | | |
| DRAWN | ASP | 31-10-16 | | | | | | |
| CHECKED | | | | | | | | |
| APPROVED | | | | | | | | |
| FINISH ▽ IF NOT SHOWN | | | SURFACE FINISH IN μm AS PER IS:696 - 1972 | | | | | SUPERSEDES |
| SCALE - 1 : 2 | | | TITLE | | | | | SUPERSEDED BY |
| SPACERS (FOR TROLLEY DRIVE) | | | DRG. No. M42P001 - 10 - 06 - A4 | | | | | |
| SHEET 1 | | | OF 1 | | | | | |

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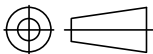
DRG. No. M42P001 - 10 - 07 - B3
SHEET 1 OF 1



SECTION - 'YY'

~ (▼)

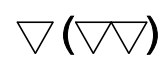
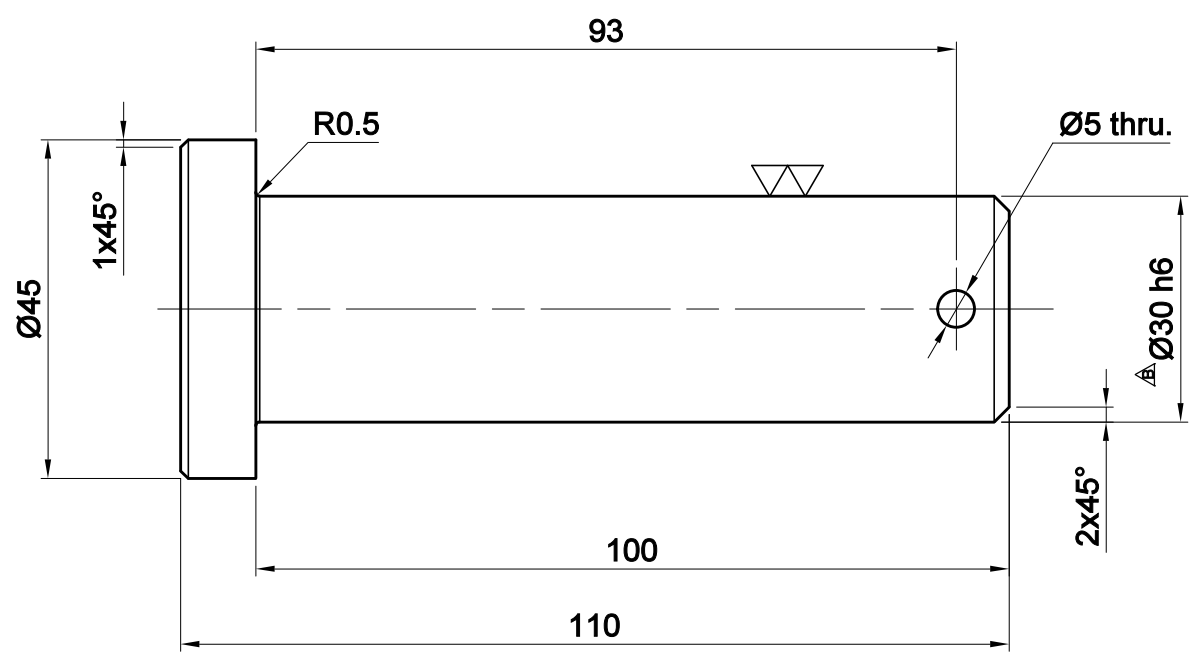
MAT'L.: St 42S, IS : 226 - 75

| | | | | | | | | | | | | | | | | |
|---|----------|---|--|---|------------------------|--------------|---------|----------|-----|------------------------|-----|------|------------|----|---------------|-----|
| 2 | - | VERTICAL PLATE 125 x 90 x 20 thk. | St 42S, IS : 226-75 | 2 | - | - | - | | | | | | | | | |
| 1 | - | BASE PLATE 190 x 125 x 20 thk. | St 42S, IS : 226-75 | 1 | - | - | - | | | | | | | | | |
| Sl.No. | DRG. No. | DESCRIPTION | MATERIAL | No. OFF | PER PCE. WEIGHT kg. | TOTAL | REMARKS | | | | | | | | | |
| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | DEPT. : AUTO GRINDING SHOP | | | TOTAL Wt. kg | | | | | | | | | | |
| W.O.No. : 18 - 2 - 032 | |  | <div>Mishra Dhatu Nigam Ltd</div> <div>SUPER ALLOYS PLANT</div> <div>HYDERABAD</div> | | | | | | | | | | | | | |
| | NAME | | | | | | | DATE | | | | | | | | |
| DESIGNED | | | | | | | | | | | | | | | | |
| DRAWN/SCAN | ASP | | | | | | | 03/07/18 | | | | | | | | |
| CHECKED | | | | | | | | | | | | | | | | |
| APPROVED | | | ▽▽▽▽ | | ▽▽▽ | | ▽▽ | | ▽ | | ~ | | SUPERSEDES | | | |
| | | | N1 | N2 | N3 | N4 | N5 | N6 | N7 | N8 | N9 | N10 | | | N11 | N12 |
| | | | 0.025 | 0.05 | 0.1 | 0.2 | 0.4 | 0.8 | 1.6 | 3.2 | 6.3 | 12.5 | 25 | 50 | SUPERSEDED BY | |
| FINISH ▽ IF NOT SHOWN | | SURFACE FINISH IN um AS PER IS:696 - 1972 | | | | | | | | | | | | | | |
| SCALE - 1 : 2 | | TITLE | | <div>HYD. CYL. CONNECTING</div> <div>BRACKET - VERTICAL</div> | | | | | | DRG. No. | | | | | | |
|  | | | | | | | | | | M42P001 - 10 - 07 - B3 | | | | | | |
| | | | | SHEET 1 | | | | | | OF 1 | | | | | | |


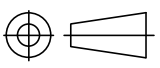
NOTE:
1. ALL DIMENSIONS ARE IN mm .U.O.S.
2. REMOVE BURRS & SHARP CORNERS
3. FREE MEASURE TOLERANCE SHOULD BE AS PER MEDIUM IS:2102 - 1969 U.O.S.
4. FOLLOW RELEVANT INDIAN STANDARDS FOR MANUFACTURE
5. DO NOT SCALE DRAWING.
6. ASK, IF IN DOUBT.

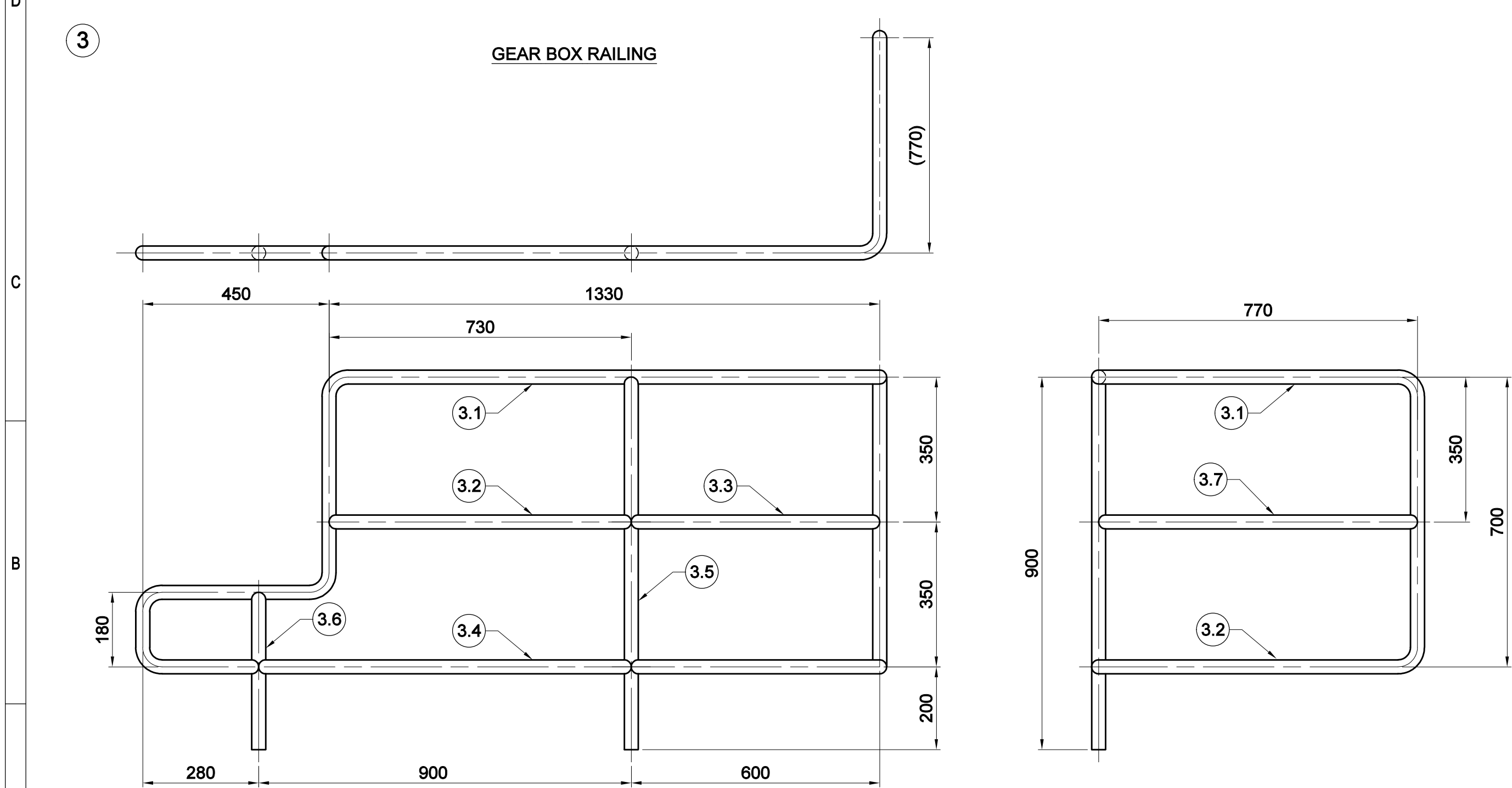
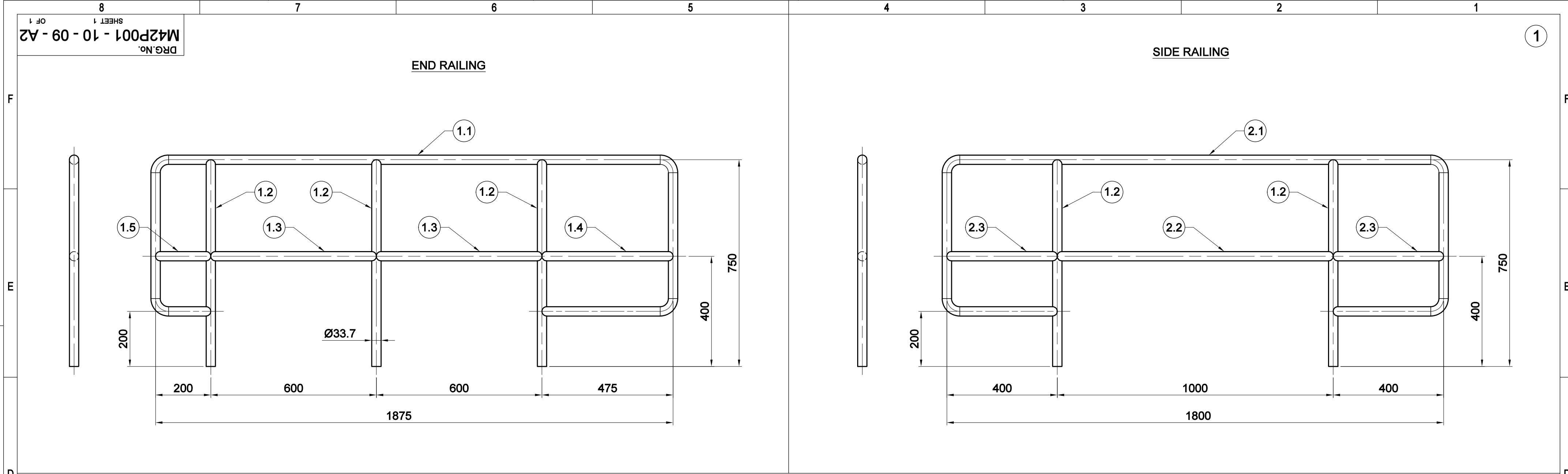
| | | | | | |
|----------|----------|--------------|------------------|---------------|--------|
| B | 03-07-18 | 18 - 2 - 032 | DIM. Ø30 WAS Ø32 | ASP | MAHESH |
| No. | DATE | W.O.No. | REMARKS | BY | APPD |
| REVISION | | | | REF. DRG. No. | |

NOTE: 1.ALL DIMENSIONS ARE IN mm .U.O.S.
2.REMOVE BURRS & SHARP CORNERS
3.FREE MEASURE TOLERANCE SHOULD BE AS PER MEDIUM IS:2102 - 1969 U.O.S.
4.FOLLOW RELEVANT INDIAN STANDARDS FOR MANUFACTURE
5.DO NOT SCALE DRAWING.
6.ASK, IF IN DOUBT.




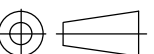
MAT'L.: 40Ni2 Cr1 Mo28

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|----------|--------------------------------|--|---------|--------------|-------|------------------------|------------|------|-----|-----|--|--|---|--|--|---|--|--|----|----|----|----|----|----|----|----|----|-----|-----|-----|-------|------|-----|-----|-----|-----|-----|-----|-----|------|----|----|
| Sl.No. | DRG. No. | DESCRIPTION | MATERIAL | No. OFF | PER PCE. | TOTAL | REMARKS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | DEPT. : AUTO GRINDING SHOP | | WEIGHT kg. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| W.O.No. : 18 - 2 - 032 | | | TOTAL Wt. kg | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NAME | | DATE | <div><div>Mishra Dhatu Nigam Ltd SUPER ALLOYS PLANT HYDERABAD</div></div> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DESIGNED | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DRAWN | | ASP 03/07/18 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CHECKED | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| APPROVED | | | <table><tr><td colspan="3">▽▽▽</td><td colspan="3">▽▽</td><td colspan="3">▽</td><td colspan="3">~</td></tr><tr><td>N1</td><td>N2</td><td>N3</td><td>N4</td><td>N5</td><td>N6</td><td>N7</td><td>N8</td><td>N9</td><td>N10</td><td>N11</td><td>N12</td></tr><tr><td>0.025</td><td>0.05</td><td>0.1</td><td>0.2</td><td>0.4</td><td>0.8</td><td>1.6</td><td>3.2</td><td>6.3</td><td>12.5</td><td>25</td><td>50</td></tr></table> | | | | | ▽▽▽ | | | ▽▽ | | | ▽ | | | ~ | | | N1 | N2 | N3 | N4 | N5 | N6 | N7 | N8 | N9 | N10 | N11 | N12 | 0.025 | 0.05 | 0.1 | 0.2 | 0.4 | 0.8 | 1.6 | 3.2 | 6.3 | 12.5 | 25 | 50 |
| ▽▽▽ | | | ▽▽ | | | ▽ | | | ~ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| N1 | N2 | N3 | N4 | N5 | N6 | N7 | N8 | N9 | N10 | N11 | N12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.025 | 0.05 | 0.1 | 0.2 | 0.4 | 0.8 | 1.6 | 3.2 | 6.3 | 12.5 | 25 | 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FINISH ▽ IF NOT SHOWN | | | SURFACE FINISH IN μm AS PER IS:696 - 1972 | | | | | SUPERSEDES | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SCALE - 1 : 2 | | TITLE | | | DRG. No. | | M42P001 - 10 - 08 - B4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | PIN (FOR VERTICAL CYLINDER) | | | SHEET 1 OF 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



NOTE:
AS PER SITE AFTER COMPLETION OF MACHINE ASSEMBLY.

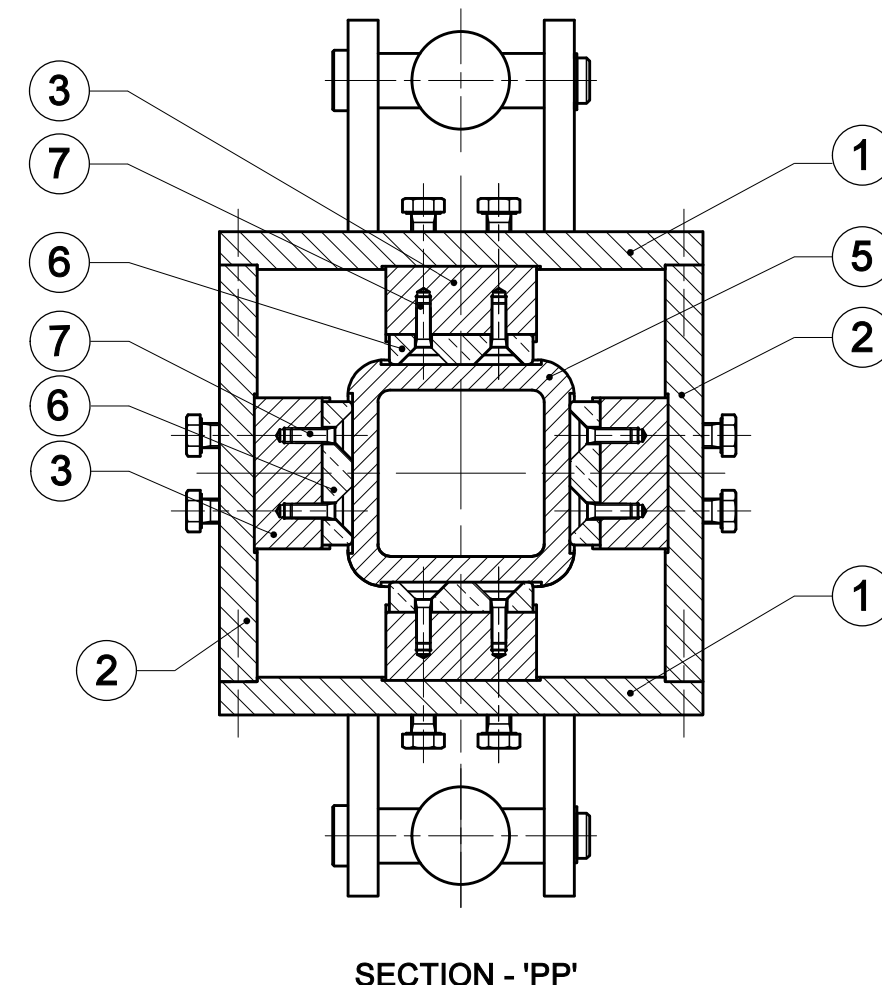
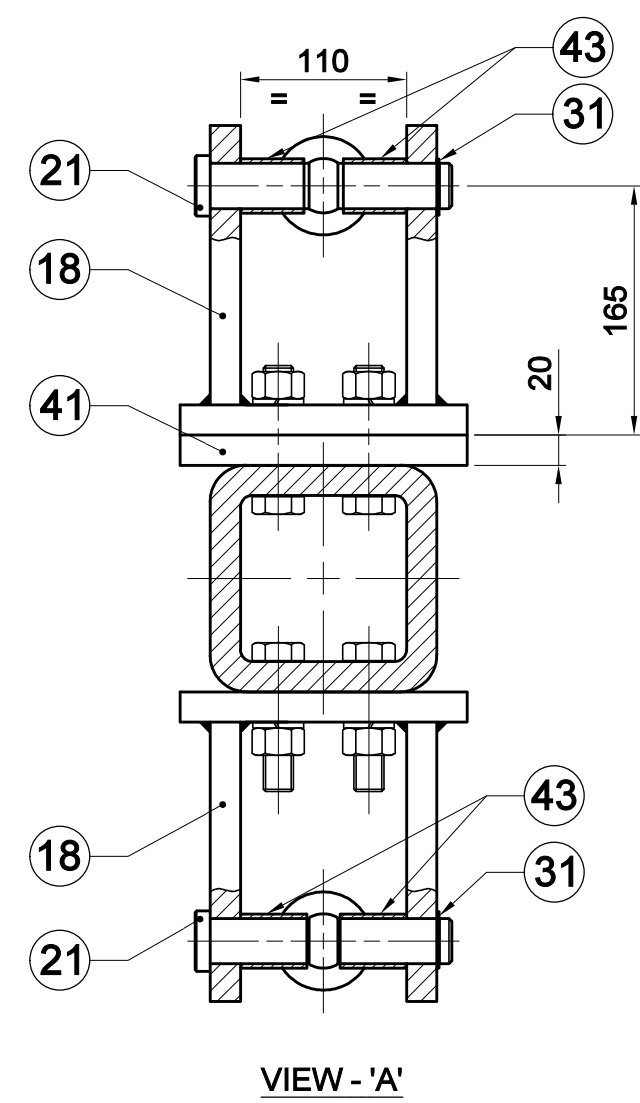
| | | | | | | | |
|-----|---|---------------------------------|--------------------------|---|---|---|---|
| 3.7 | | TUBE (MEDIUM) Ø25 x 770 LG. | St 42S, IS : 226 - 75 | 1 | - | - | - |
| 3.6 | | TUBE (MEDIUM) Ø25 x 380 LG. | St 42S, IS : 226 - 75 | 1 | - | - | - |
| 3.5 | | TUBE (MEDIUM) Ø25 x 900 LG. | St 42S, IS : 226 - 75 | 1 | - | - | - |
| 3.4 | | TUBE (MEDIUM) Ø25 x 900 LG. | St 42S, IS : 226 - 75 | 1 | - | - | - |
| 3.3 | | TUBE (MEDIUM) Ø25 x 600 LG. | St 42S, IS : 226 - 75 | 1 | - | - | - |
| 3.2 | | TUBE (MEDIUM) Ø25 x 730 LG. | St 42S, IS : 226 - 75 | 1 | - | - | - |
| 3.1 | | TUBE (MEDIUM) Ø25 x 5700 LG. | St 42S, IS : 226 - 75 | 1 | - | - | - |
| 3 | | GEAR BOX RAILING | St 42S, IS : 226 - 75 | 1 | - | - | - |
| 2.3 | | TUBE (MEDIUM) Ø25 x 400 LG. | St 42S, IS : 226 - 75 | 2 | - | - | - |
| 2.2 | | TUBE (MEDIUM) Ø25 x 1000 LG. | St 42S, IS : 226 - 75 | 1 | - | - | - |
| 2.1 | | TUBE (MEDIUM) Ø25 x 3980 LG. | St 42S, IS : 226 - 75 | 1 | - | - | - |
| 2 | - | SIDE RAILING | St 42S, IS : 226 - 75 | 1 | - | - | - |
| 1.5 | - | TUBE (MEDIUM) Ø25 x 200 LG. | St 42S, IS : 226 - 75 | 1 | - | - | - |
| 1.4 | - | TUBE (MEDIUM) Ø25 x 475 LG. | St 42S, IS : 226 - 75 | 1 | - | - | - |
| 1.3 | - | TUBE (MEDIUM) Ø25 x 600 LG. | St 42S, IS : 226 - 75 | 2 | - | - | - |
| 1.2 | - | TUBE (MEDIUM) Ø25 x 750 LG. | St 42S, IS : 226 - 75 | 5 | - | - | - |
| 1.1 | - | TUBE (MEDIUM) Ø25 x 3950 LG. | St 42S, IS : 226 - 75 | 1 | - | - | - |
| 1 | - | END RAILING | - | 1 | - | - | - |


| Sl.No. | DRG. No. | DESCRIPTION | | | | | | | | | | MATERIAL | No. OFF | PER PCE. WEIGHT kg. | TOTAL WEIGHT kg. | REMARKS | | | | |
|---|----------|-------------|--|----------|--|---|--|-------------------|--|----------------------------|--|-----------------------------------|---------|---------------------|--------------------|---------|--|--|--|--|
| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | | | | | | | | DEPT. : AUTO GRINDING SHOP | | | | | TOTAL Wt. kg — | | | | | |
| W.O.No. : 18 - 2 - 032 | | NAME | | DATE | |  | | | | | <div>Mishra Dhatu Nigam Ltd</div> <div>SUPER ALLOYS PLANT</div> <div>HYDERABAD</div> | | | | | | | | | |
| DESIGNED | | | | | | | | | | | | | | | | | | | | |
| DRAWN | | ASP | | 29-05-18 | | | | | | | | | | | | | | | | |
| CHECKED | | | | | | | | | | | | | | | | | | | | |
| APPROVED | | | | | | ▽▽▽▽ | | ▽▽ | | ▽ | | ~ | | SUPERSEDES | | | | | | |
| | | | | | | N1 N2 N3 | | N4 N5 N6 | | N7 N8 N9 | | N10 N11 | | N12 | | | | | | |
| | | | | | | 0.025 0.05 0.1 | | 0.2 0.4 0.8 | | 1.6 3.2 6.3 | | 12.5 25 50 | | SUPERSEDED BY | | | | | | |
| FINISH ▽ IF NOT SHOWN | | | | | | SURFACE FINISH IN um AS PER IS:696 - 1972 | | | | | | | | | | | | | | |
| SCALE - 1 : 10 | | TITLE | | | | | | | | | | DRG. No. | | | | | | | | |
|  | | RAILING | | | | | | | | | | M42P001 - 10 - 09 - A2 | | | | | | | | |
| | | | | | | | | | | | | SHEET 1 OF 1 | | | | | | | | |

| No. | DATE | W.O.No. | REMARKS | BY | APPD | REF. DRG. No. |
|-----|------|---------|----------|----|------|---------------|
| | | | REVISION | | | |

THIS DRAWING IS THE PROPERTY OF M/s MISHRA DHATU NIGAM LTD, AND SHOULD NOT BE GIVEN OR HANDED OVER OR DIVULGED TO ANY OTHER PERSON WITHOUT THE EXPRESS PERMISSION OF THE COMPANY IN WRITING. THE MATTER GIVEN ON THIS DRAWING IS TO BE TREATED AS STRICTLY CONFIDENTIAL.

NOTE:
1. ALL DIMENSIONS ARE IN mm . U.O.S.
2. REMOVE BURRS & SHARP CORNERS
3. FREE MEASURE TOLERANCE SHOULD BE AS PER MEDIUM IS:2102 - 1969 U.O.S.
4. FOLLOW RELEVANT INDIAN STANDARDS FOR MANUFACTURE
5. DO NOT SCALE DRAWING.
6. ASK IF IN DOUBT.

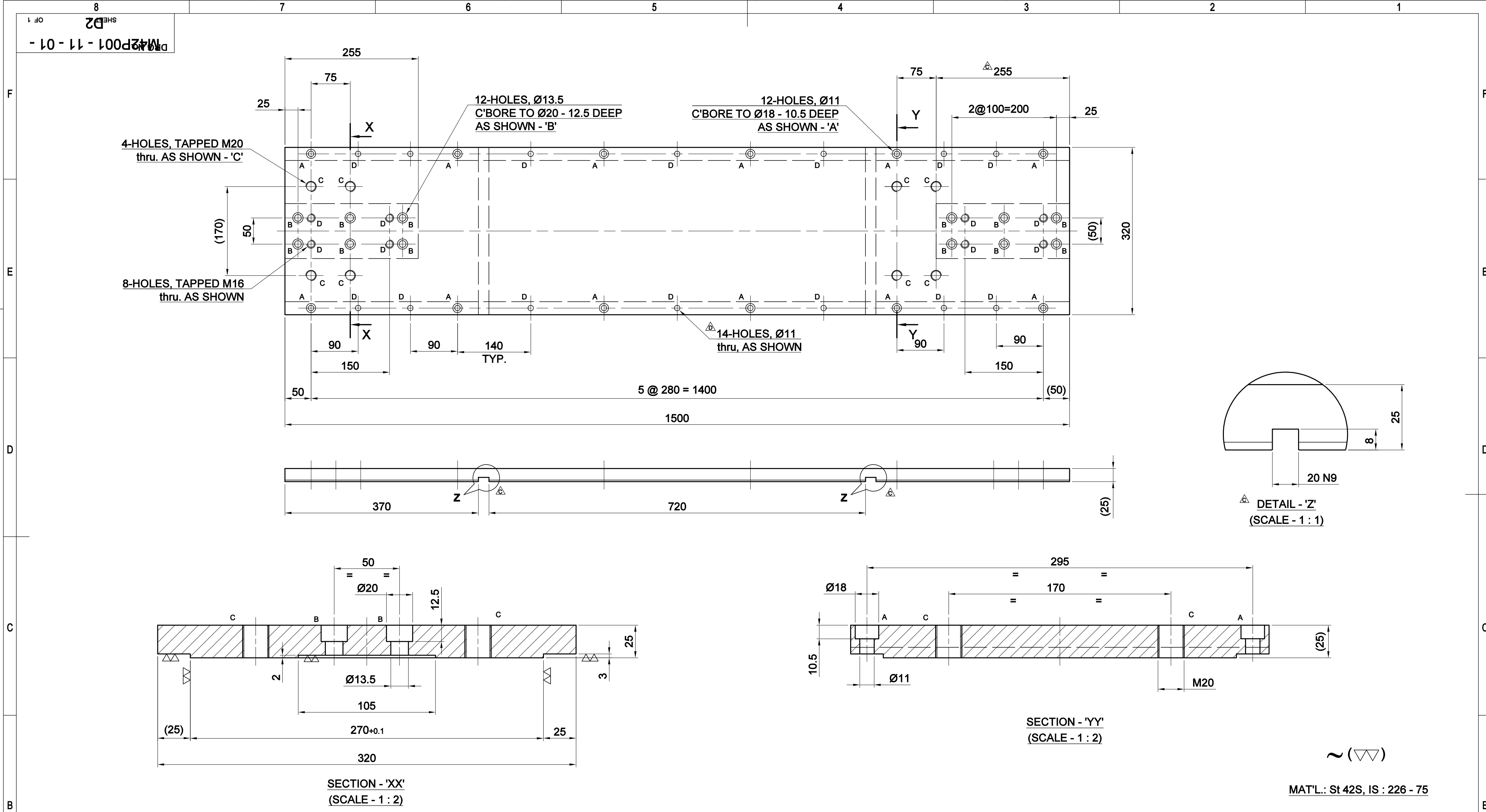


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|--------------------------------------|----------|-------------|---|----------|-------------------|-------|---------|
| S/LNo. | DRG. No. | DESCRIPTION | MATERIAL | No. Off. | PER PCE WEIGHT | TOTAL | REMARKS |
| WPT. : AUTO BILLET GRINDER (MIDHANI) | | | DEPT. : AUTO GRINDING SHOP | | TOTAL Wt. kg. : ~ | | |
| ExD.No. : 16 - 1 - 122 | | |  Mishra Dhatu Nigam Ltd. SUPER ALLOYS PLANT HYDERABAD | | | | |
| DESIGNED | NAME | DATE | | | | | |
| DRAWN | ASP | 27-08-18 | | | | | |
| | | | | | | | |

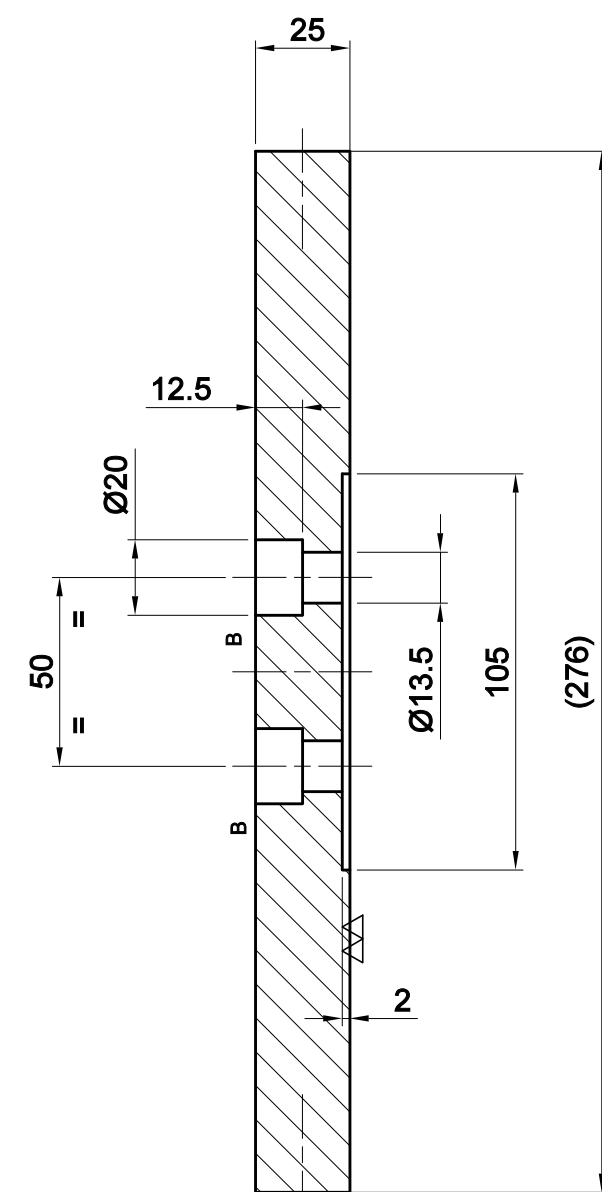
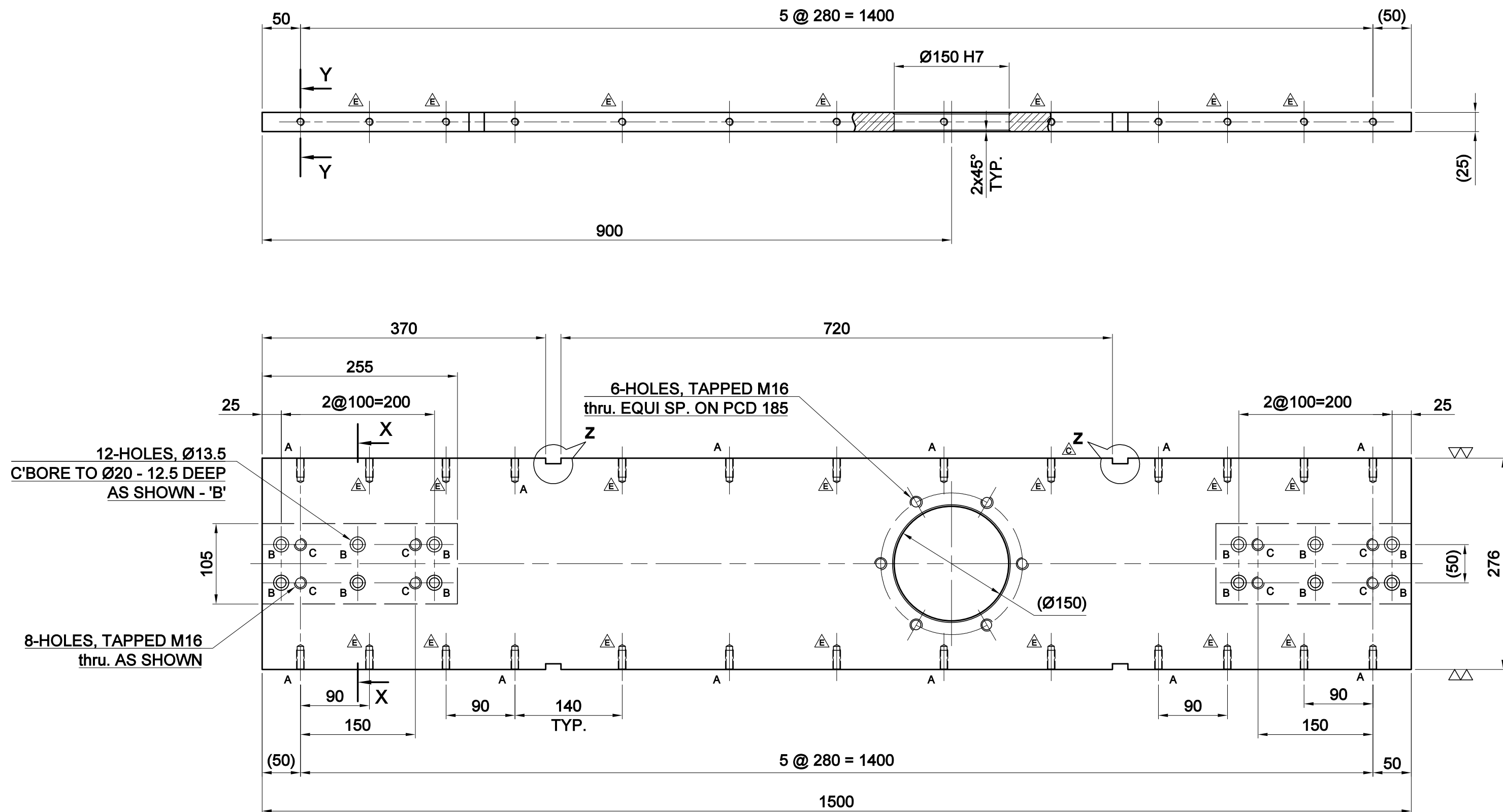
NOTE:

1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED
2. REMOVE BURRS & SHARP CORNERS
3. FREE MEASURE TOLERANCE SHOULD BE AS PER MEDIUM IS:2102-1969 UNLESS OTHERWISE SPECIFIED
4. FOLLOW RELEVANT INDIAN STANDARDS FOR MANUFACTURE
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DRG. No.
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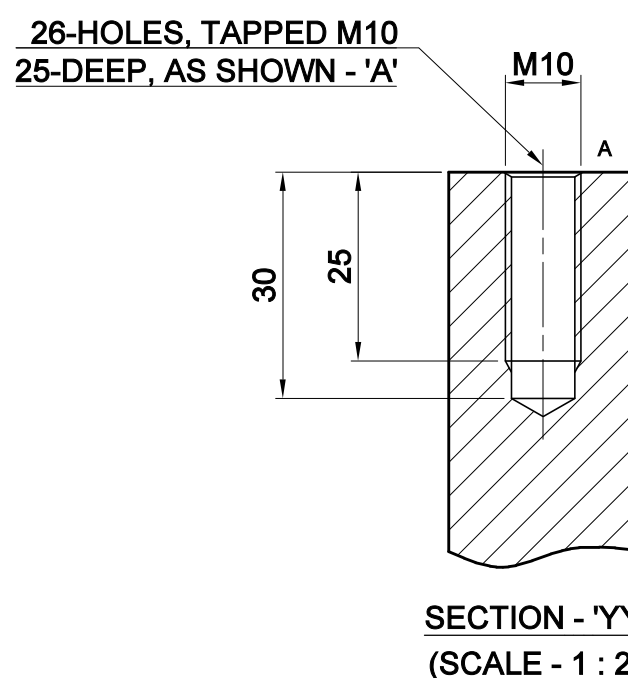
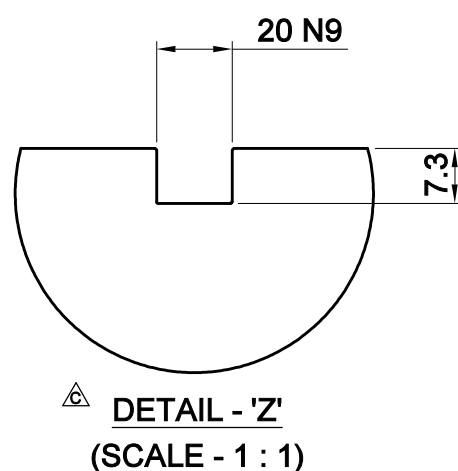
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WEIGHT kg. | | TOTAL | | REMARKS | | EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | | | | | | | | | | DEPT. : AUTO GRINDING SHOP | | | | | | TOTAL Wt. kg | | | | - | | W.O.No. : 16 - 1 - 122 | | | | | | | | | | | | | | | | | | | | | <div><div>MIDHANI</div><div>Mishra Dhatu Nigam Ltd</div><div>SUPER ALLOYS PLANT</div><div>HYDERABAD</div></div> | | | DESIGNED | | NAME | | DATE | | | | | | | | | | | | | | DRAWN | | ASP | | 01-03-18 | | | | | | | | | | | | | | CHECKED | | | | | | | | | | | | | | | | | | APPROVED | | | | | | | | | | | | | | | | | | | | | SUPERSEDES | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | SUPERSEDED BY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | | | | | | | | | | DEPT. : AUTO GRINDING SHOP | | | | | | TOTAL Wt. kg | | | | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| W.O.No. : 16 - 1 - 122 | | | | | | | | | | | | | | | | | | | | | <div><div>MIDHANI</div><div>Mishra Dhatu Nigam Ltd</div><div>SUPER ALLOYS PLANT</div><div>HYDERABAD</div></div> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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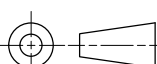
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NOTE:
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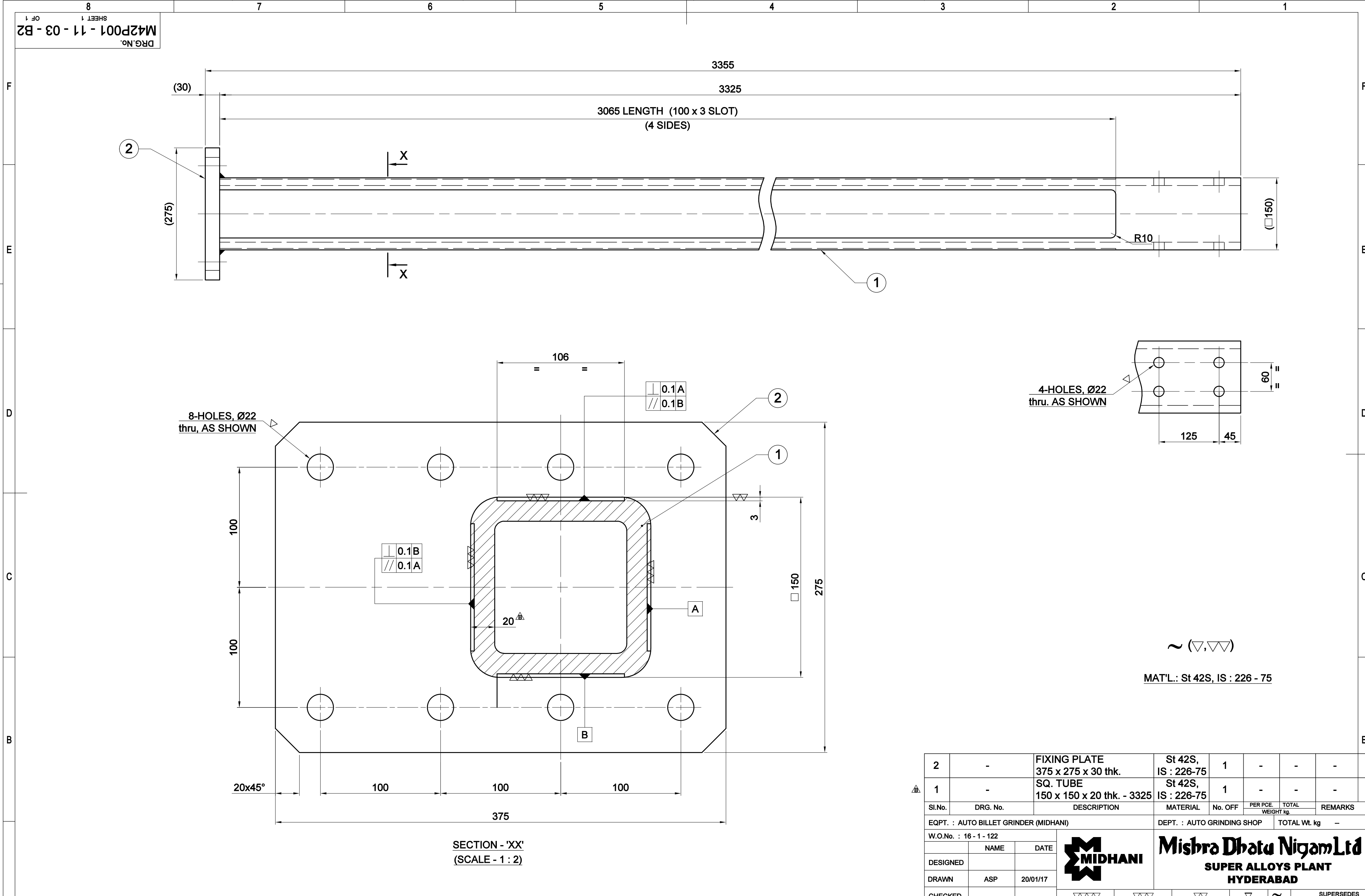
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|---|----------|-------------|--|------|------|-----|-----|-----|-----|----------------------------|--|---------|--------------|---------------|------------------|---------|---|
| Sl.No. | DRG. No. | DESCRIPTION | | | | | | | | MATERIAL | | No. OFF | PER PCE. | | TOTAL WEIGHT kg. | REMARKS | |
| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | | | | | | | | DEPT. : AUTO GRINDING SHOP | | | TOTAL Wt. kg | | | | — |
| W.O.No. : 16 - 1 - 122 | | | <div>MIDHANI</div> | | | | | | | | <div>Mishra Dhatu Nigam Ltd</div> <div>SUPER ALLOYS PLANT</div> <div>HYDERABAD</div> | | | | | | |
| | NAME | DATE | | | | | | | | | | | | | | | |
| DESIGNED | | | | | | | | | | | | | | | | | |
| DRAWN | ASP | 01/03/18 | | | | | | | | | | | | | | | |
| CHECKED | | | ▽▽▽▽ | | ▽▽▽▽ | | ▽▽ | | ▽ | | ~ | | SUPERSEDES | | | | |
| APPROVED | | | N1 | N2 | N3 | N4 | N5 | N6 | N7 | N8 | N9 | N10 | | | N11 | N12 | |
| | | | 0.025 | 0.05 | 0.1 | 0.2 | 0.4 | 0.8 | 1.6 | 3.2 | 6.3 | 12.5 | | | 25 | 50 | |
| FINISH ▽ IF NOT SHOWN | | | SURFACE FINISH IN um AS PER IS:696 - 1972 | | | | | | | | | | | SUPERSEDED BY | | | |
| SCALE - 1 : 5, 1 : 2 | | TITLE | <div>SIDE PLATE</div> <div>(FOR MAIN BODY)</div> | | | | | | | | | | | | | | |
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| DRG. No. | | | | | | | | | | | | | | | | | |
| M42P001 - 11 - 02 - E2 | | | | | | | | | | | | | | | | | |
| SHEET 1 OF 1 | | | | | | | | | | | | | | | | | |

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| E | 16-03-19 | - | HOLES ADDED | ASP | SASIDHARAN | | |
| D | 27-09-18 | - | KEY WAY ADDED | ASP | SASIDHARAN | | |
| C | 01-03-18 | - | M16 (C) TAPPED HOLE ADDED | ASP | SASIDHARAN | | |
| B | 15-09-17 | - | BOM & HINGE PIN DELETED. | ASP | SASIDHARAN | | |
| No. | DATE | W.O.No. | REMARKS | BY | APPD | REF. DRG. No. | |
| REVISION | | | | | | | |


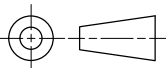
THIS DRAWING IS THE PROPERTY OF M/s MISHRA DHATU NIGAM LTD,
AND SHOULD NOT BE GIVEN OR HANDED OVER OR DIVULGED
TO ANY OTHER PERSON WITHOUT THE EXPRESS PERMISSION
OF THE COMPANY IN WRITING. THE MATTER GIVEN ON THIS DRAWING
IS TO BE TREATED AS STRICTLY CONFIDENTIAL.

NOTE:

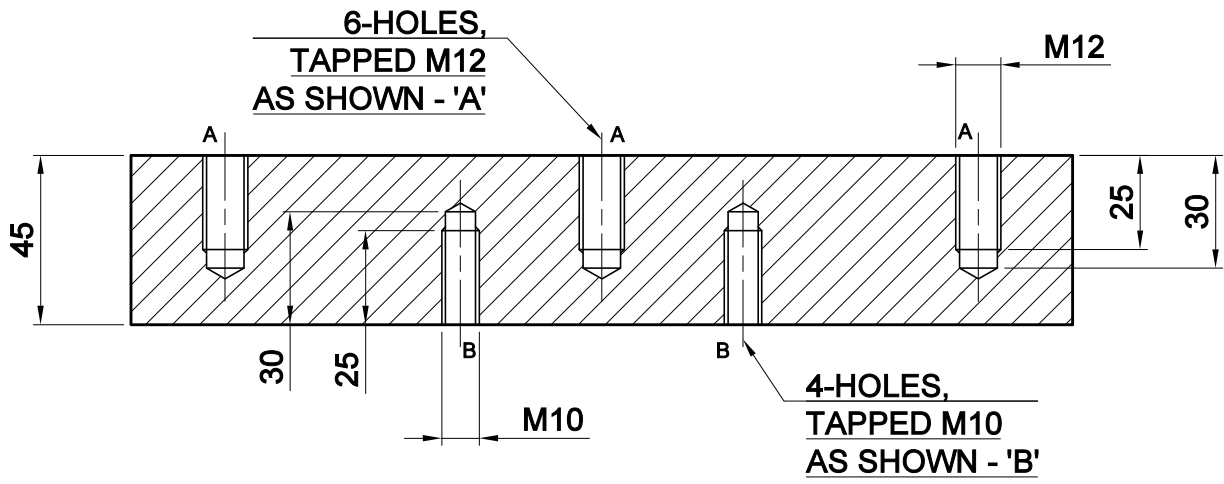
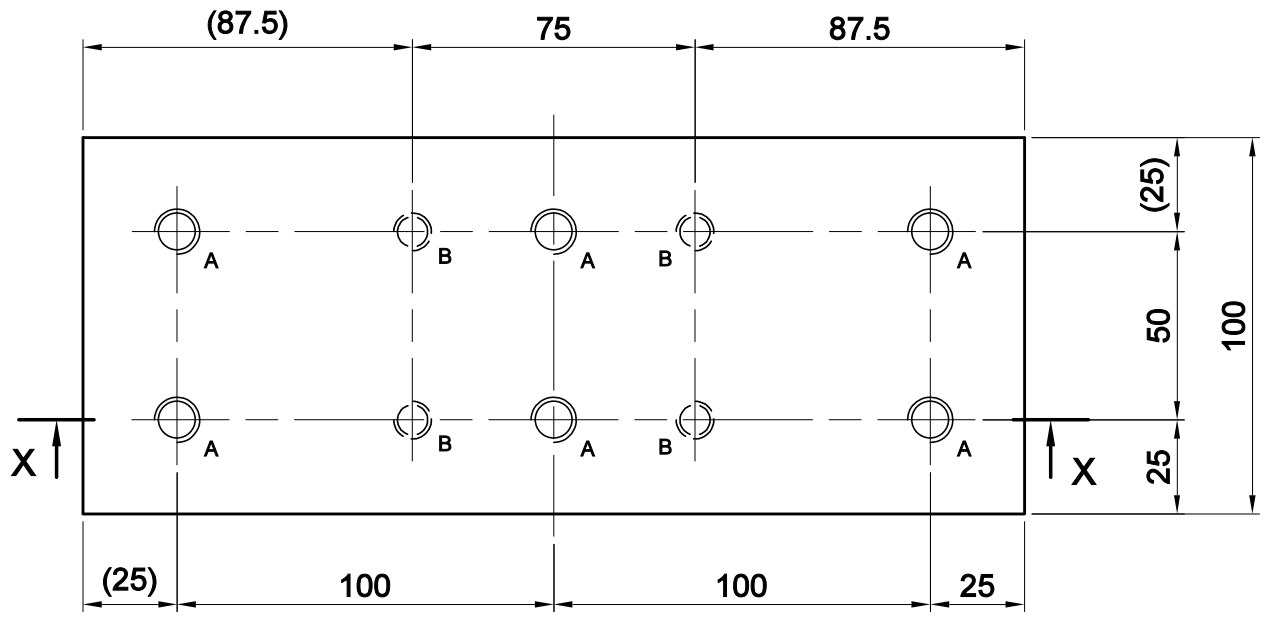
1. ALL DIMENSIONS ARE IN mm U.O.S.
2. REMOVE BURRS & SHARP CORNERS
3. FREE MEASURE TOLERANCE SHOULD BE AS PER MEDIUM IS:2102 - 1969 U.O.S.
4. FOLLOW RELEVANT INDIAN STANDARDS FOR MANUFACTURE
5. DO NOT SCALE DRAWING.
6. ASK IF IN DOUBT.



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| W.O.No. : 16 - 1 - 122 | |  | <div>Mishra Dhatu Nigam Ltd</div> <div>SUPER ALLOYS PLANT</div> <div>HYDERABAD</div> | | | | | | | | |
| DESIGNED | NAME | | | | | | | | DATE | | |
| DRAWN | ASP | | | | | | | | 20/01/17 | | |
| CHECKED | | | | | | | | | | | |
| APPROVED | | | | | | | | | | | |
| FINISH ▽ IF NOT SHOWN | | SURFACE FINISH IN um AS PER IS:696 - 1972 | | | | | | | | | |
| SCALE - 1 : 5, 1 : 2 | |  | | TITLE | | <div>SLIDING TUBE</div> <div>(FOR MAIN BODY)</div> | | | DRG. No. | | |
| M42P001 - 11 - 03 - B2 | | | | | | | | | | | |
| | | | | | | SHEET 1 | | | OF 1 | | |

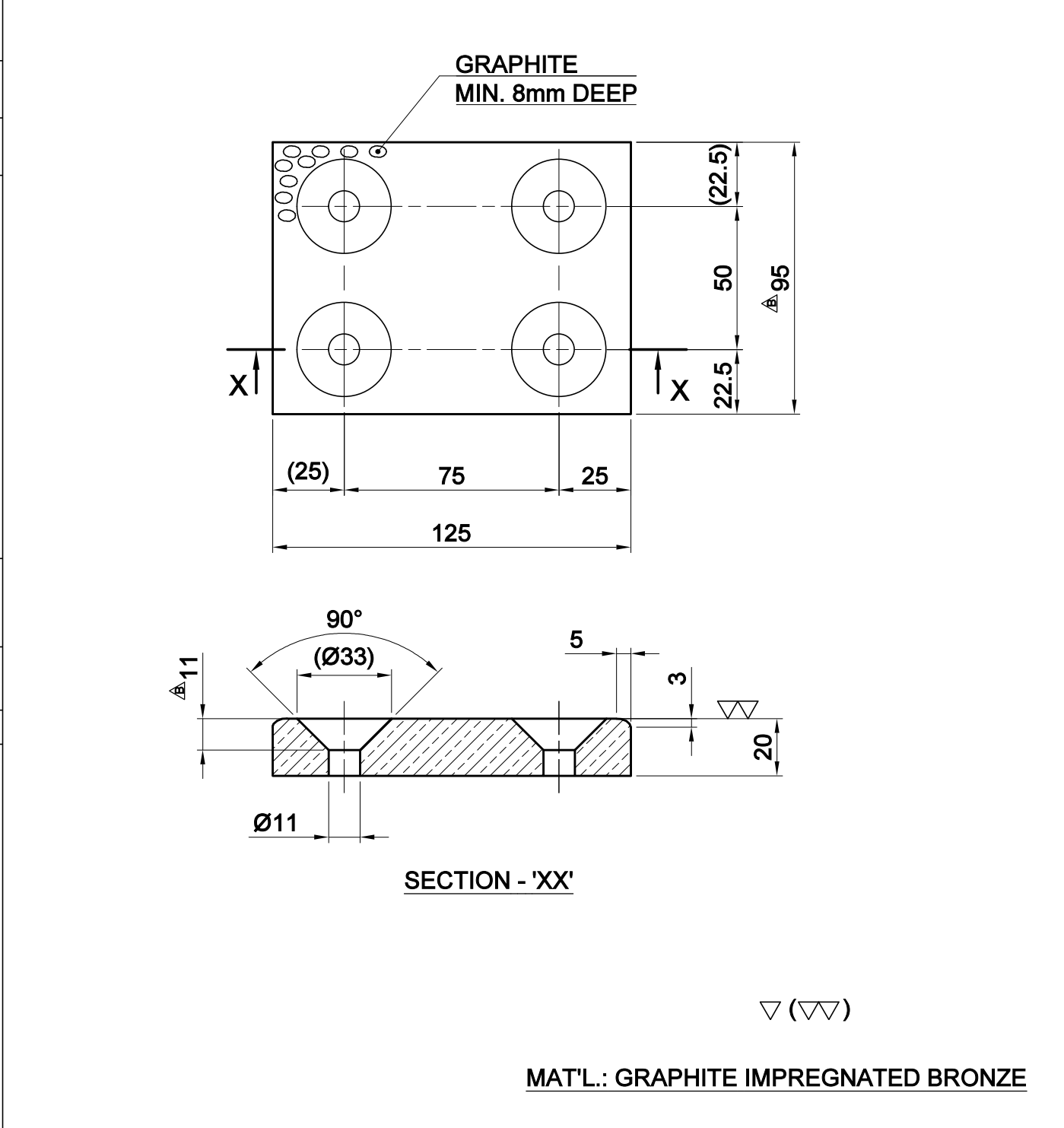
NOTE: 1.ALL DIMENSIONS ARE IN mm .U.O.S.
2.REMOVE BURRS & SHARP CORNERS
3.FREE MEASURE TOLERANCE SHOULD BE AS PER MEDIUM IS:2102 - 1969 U.O.S.
4.FOLLOW RELEVANT INDIAN STANDARDS FOR MANUFACTURE
5.DO NOT SCALE DRAWING.
6.ASK, IF IN DOUBT.





SECTION - 'XX'

| Sl.No. | DRG. No. | DESCRIPTION | | | | | MATERIAL | No. OFF | PER PCE. TOTAL WEIGHT kg. | | | REMARKS | | | |
|---------------------------------------|----------|--|---|------|-----|-----|----------------------------|--|--|--------------|-----|------------|-----|-----|---------------|
| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | | | | | DEPT. : AUTO GRINDING SHOP | | | TOTAL Wt. kg | | | | | |
| W.O.No. : 16 - 1 - 122 | | | <div>MIDHANI</div> | | | | | <div>Mishra Dhatu Nigam Ltd</div> <div>SUPER ALLOYS PLANT</div> <div>HYDERABAD</div> | | | | | | | |
| | NAME | DATE | | | | | | | | | | | | | |
| DESIGNED | | | | | | | | | | | | | | | |
| DRAWN | ASP | 21/01/17 | | | | | | | | | | | | | |
| CHECKED | | | | | | | | | | | | | | | |
| APPROVED | | | ▽▽▽ | | ▽▽▽ | | ▽▽ | | ▽ | | ~ | SUPERSEDES | | | |
| | | | N1 | N2 | N3 | N4 | N5 | N6 | N7 | N8 | N9 | N10 | N11 | N12 | SUPERSEDED BY |
| | | | 0.025 | 0.05 | 0.1 | 0.2 | 0.4 | 0.8 | 1.6 | 3.2 | 6.3 | 12.5 | 25 | 50 | |
| FINISH ▽ IF NOT SHOWN | | | SURFACE FINISH IN μm AS PER IS:696 - 1972 | | | | | | | | | | | | |
| SCALE - 1 : 2 | | TITLE | | | | | | | | | | | | | |
| | | SLIDE PLATE SUPPORT (FOR MAIN BODY) | | | | | | | DRG. No. M42P001 - 11 - 04 - A4 SHEET 1 OF 1 | | | | | | |

NOTE: 1.ALL DIMENSIONS ARE IN mm .U.O.S.
2.REMOVE BURRS & SHARP CORNERS
3.FREE MEASURE TOLERANCE SHOULD BE AS PER MEDIUM IS:2102 - 1969 U.O.S.
4.FOLLOW RELEVANT INDIAN STANDARDS FOR MANUFACTURE
5.DO NOT SCALE DRAWING.
6.ASK, IF IN DOUBT.



| SI.No. | | DRG. No. | | DESCRIPTION | | | | | | MATERIAL | | No. OFF | | PER PCE. | | TOTAL | | REMARKS | | | | | |
|---|--|---|--|---|--|-------|------|-----|-----|--|-----|---------|-----|------------|------|------------------------|-----|---------------|------------|--|--|----------|--|
| | | | | | | | | | | | | | | WEIGHT kg. | | | | | | | | | |
| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | | | | | | | | DEPT. : AUTO GRINDING SHOP | | | | | | TOTAL Wt. kg | | | | | | | |
| W.O.No. : 16 - 1 - 122 | | | |  | | | | | | <div>Mishra Dhatu Nigam Ltd</div> <div>SUPER ALLOYS PLANT</div> <div>HYDERABAD</div> | | | | | | | | | | | | | |
| | | NAME | | | | | | | | | | | | | | | | | | | | DATE | |
| DESIGNED | | | | | | | | | | | | | | | | | | | | | | | |
| DRAWN | | ASP | | | | | | | | | | | | | | | | | | | | 21/01/17 | |
| CHECKED | | | | | | ▽▽▽ | | | ▽▽▽ | | | ▽▽ | | | ▽ | | ~ | | SUPERSEDES | | | | |
| | | | | | | N1 | N2 | N3 | N4 | N5 | N6 | N7 | N8 | N9 | N10 | N11 | N12 | | | | | | |
| APPROVED | | | | | | 0.025 | 0.05 | 0.1 | 0.2 | 0.4 | 0.8 | 1.6 | 3.2 | 6.3 | 12.5 | 25 | 50 | SUPERSEDED BY | | | | | |
| FINISH ▽ IF NOT SHOWN | | | | SURFACE FINISH IN μm AS PER IS:696 - 1972 | | | | | | | | | | | | | | | | | | | |
| SCALE - 1 : 2 | | TITLE | | | | | | | | | | | | | | DRG. No. | | | | | | | |
|  | | <div>GRAPHITE IMPREGNATED</div> <div>BRONZE SLIDE PLATE</div> | | | | | | | | | | | | | | M42P001 - 11 - 05 - B4 | | | | | | | |
| | | | | | | | | | | | | | | | | SHEET 1 | | OF 1 | | | | | |



C


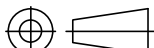
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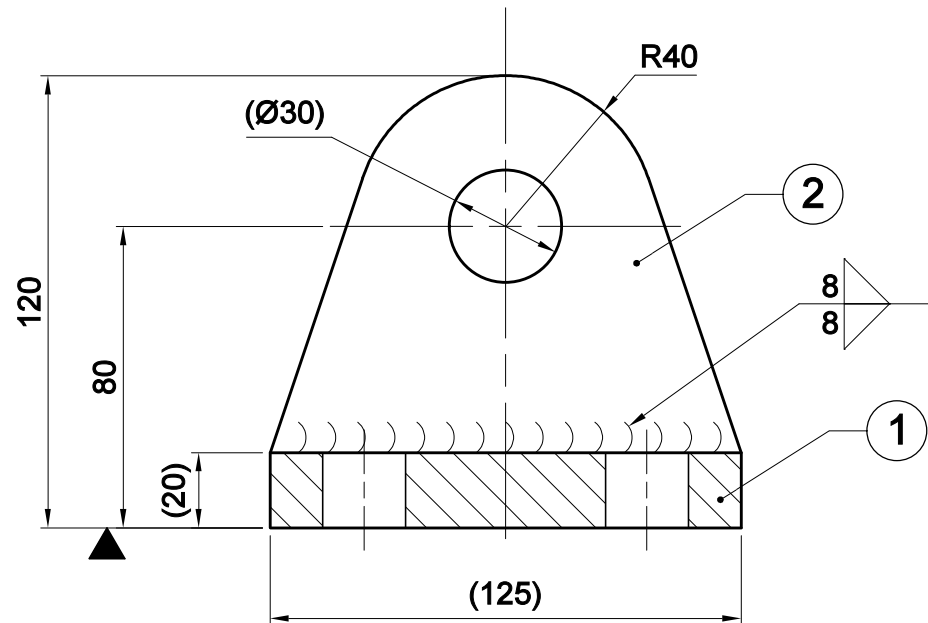
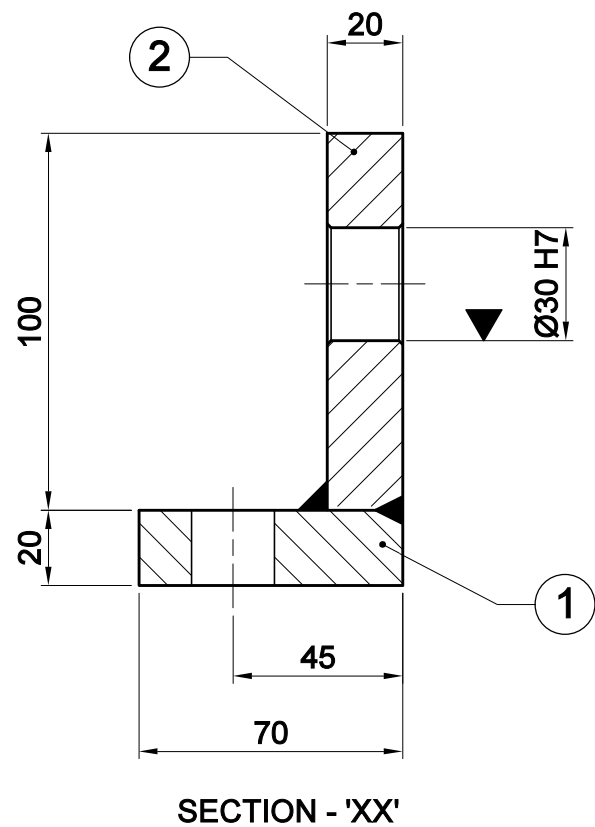
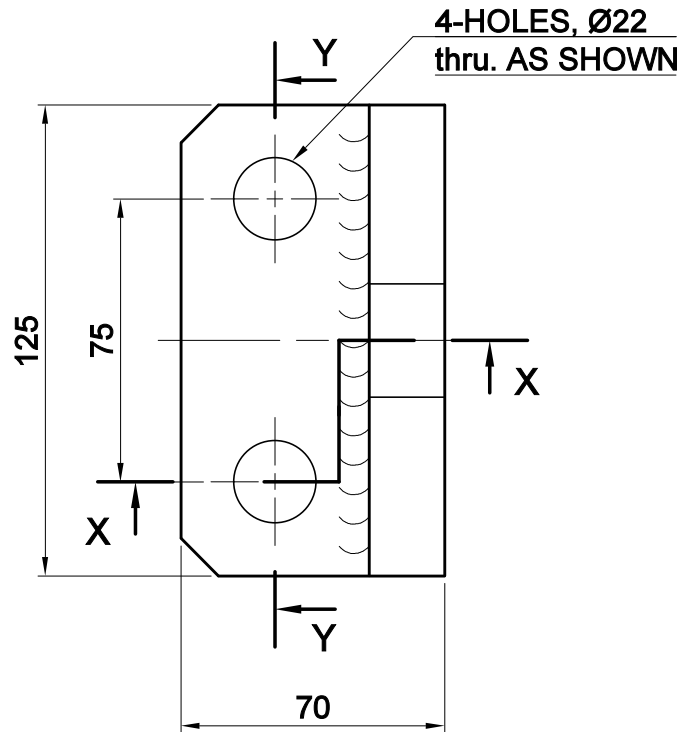
THIS DRAWING IS THE PROPERTY OF M/s MISHRA DHATU NIGAM LTD. AND SHOULD NOT BE GIVEN OR HANDED OVER OR DIVULGED TO ANY OTHER PERSON WITHOUT THE EXPRESS PERMISSION OF THE COMPANY IN WRITING. THE MATTER GIVEN ON THIS DRAWING IS TO BE TREATED AS STRICTLY CONFIDENTIAL.



MAT'L: St 42S, IS : 226 - 75

| | | | | | | | | | | | | | | | | | | | |
|---|----------|--|---|------|-----|-----|-----|-----|-----|--|---------|----------------------------|----------|-----|---------------|--------------|---------|--|--|
| Sl.No. | DRG. No. | | DESCRIPTION | | | | | | | MATERIAL | No. OFF | | PER PCE. | | TOTAL | | REMARKS | | |
| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | | | | | | | | | | DEPT. : AUTO GRINDING SHOP | | | | TOTAL Wt. kg | | | |
| W.O.No. : 16 - 1 - 122 | | |  | | | | | | | <div>Mishra Dhatu Nigam Ltd</div> <div>SUPER ALLOYS PLANT</div> <div>HYDERABAD</div> | | | | | | | | | |
| | NAME | DATE | | | | | | | | | | | | | | | | | |
| DESIGNED | | | | | | | | | | | | | | | | | | | |
| DRAWN | ASP | 20/01/17 | | | | | | | | | | | | | | | | | |
| CHECKED | | | | | | | | | | | | | | | | | | | |
| | | | ▽▽▽ | | | ▽▽▽ | | | ▽▽ | | | ▽ | | ~ | | SUPERSEDES | | | |
| | | | N1 | N2 | N3 | N4 | N5 | N6 | N7 | N8 | N9 | N10 | N11 | N12 | | | | | |
| APPROVED | | | 0.025 | 0.05 | 0.1 | 0.2 | 0.4 | 0.8 | 1.6 | 3.2 | 6.3 | 12.5 | 25 | 50 | SUPERSEDED BY | | | | |
| FINISH ▽ IF NOT SHOWN | | | SURFACE FINISH IN μm AS PER IS:696 - 1972 | | | | | | | | | | | | | | | | |
| SCALE - 1 : 2 | | TITLE <div>BEARING COVER</div> <div>(FOR MAIN BODY)</div> | | | | | | | | | | DRG. No. | | | | | | | |
|  | | | | | | | | | | | | M42P001 - 11 - 07 - A4 | | | | | | | |
| | | | | | | | | | | | | SHEET 1 OF 1 | | | | | | | |


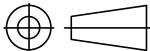
THIS DRAWING IS THE PROPERTY OF M/s MISHRA DHATU NIGAM LTD, AND SHOULD NOT BE GIVEN OR HANDED OVER OR DIVULGED TO ANY OTHER PERSON WITHOUT THE EXPRESS PERMISSION OF THE COMPANY IN WRITING. THE MATTER GIVEN ON THIS DRAWING IS TO BE TREATED AS STRICTLY CONFIDENTIAL.



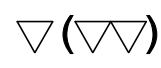
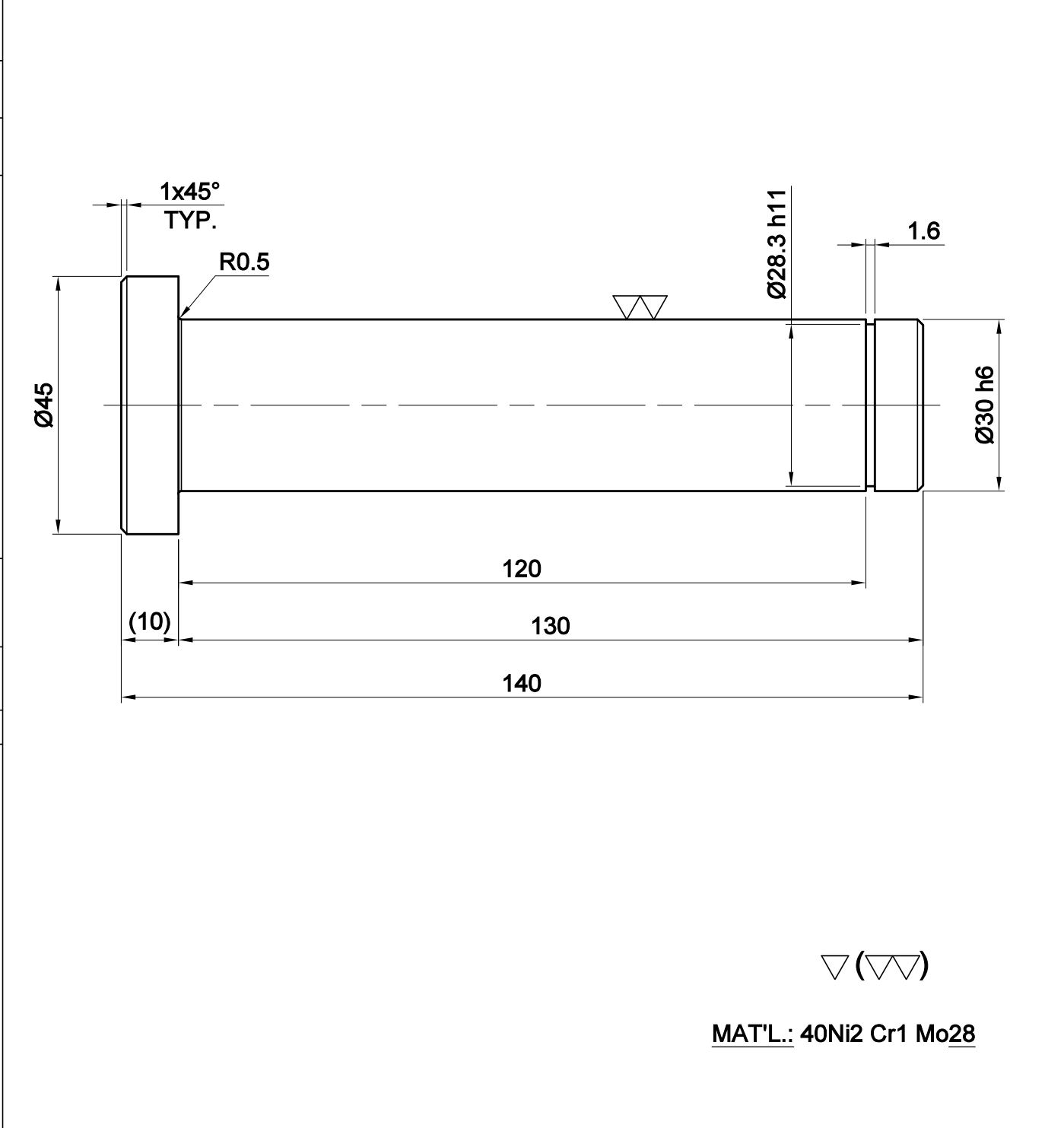
SECTION - 'YY'

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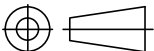
MAT'L.: St 42S, IS : 226 - 75

| | | | | | | | | | | | | | | | |
|---|----------|---|--|---------|------------------------|--------------|---------|----------|-----|-----|------|-----|------------|------------------------|--|
| 2 | - | VERTICAL PLATE 125 x 100 x 20 thk. | St 42S, IS : 226-75 | 1 | - | - | - | | | | | | | | |
| 1 | - | BASE PLATE 125 x 70 x 20 thk. | St 42S, IS : 226-75 | 1 | - | - | - | | | | | | | | |
| Sl.No. | DRG. No. | DESCRIPTION | MATERIAL | No. OFF | PER PCE. WEIGHT kg. | TOTAL | REMARKS | | | | | | | | |
| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | DEPT. : AUTO GRINDING SHOP | | | TOTAL Wt. kg | | | | | | | | | |
| W.O.No. : 16 - 1 - 122 | |  | <div>Mishra Dhatu Nigam Ltd</div> <div>SUPER ALLOYS PLANT</div> <div>HYDERABAD</div> | | | | | | | | | | | | |
| DESIGNED | NAME | | | | | | | DATE | | | | | | | |
| DRAWN/SCAN | ASP | | | | | | | 06/04/17 | | | | | | | |
| CHECKED | | | | | | | | | | | | | | | |
| APPROVED | | | ▽▽▽▽ | | ▽▽▽ | | ▽▽ | | ▽ | | ~ | | SUPERSEDES | | |
| | | N1 | N2 | N3 | N4 | N5 | N6 | N7 | N8 | N9 | N10 | N11 | | N12 | |
| | | 0.025 | 0.05 | 0.1 | 0.2 | 0.4 | 0.8 | 1.6 | 3.2 | 6.3 | 12.5 | 25 | | 50 | |
| FINISH ▽ IF NOT SHOWN | | SURFACE FINISH IN um AS PER IS:696 - 1972 | | | | | | | | | | | | SUPERSEDED BY | |
| SCALE - 1 : 2 | | TITLE | | | | | | | | | | | | | |
|  | | <div>HYD. CYL. CONNECTING</div> <div>BRACKET (HORIZONTAL BOTTOM CYL.)</div> | | | | | | | | | | | | DRG. No. | |
| | | | | | | | | | | | | | | M42P001 - 11 - 08 - B3 | |
| | | | | | | | | | | | | | | SHEET 1 OF 1 | |

NOTE: 1.ALL DIMENSIONS ARE IN mm .U.O.S.
2.REMOVE BURRS & SHARP CORNERS
3.FREE MEASURE TOLERANCE SHOULD BE AS PER MEDIUM IS:2102 - 1969 U.O.S.
4.FOLLOW RELEVANT INDIAN STANDARDS FOR MANUFACTURE
5.DO NOT SCALE DRAWING.
6.ASK, IF IN DOUBT.

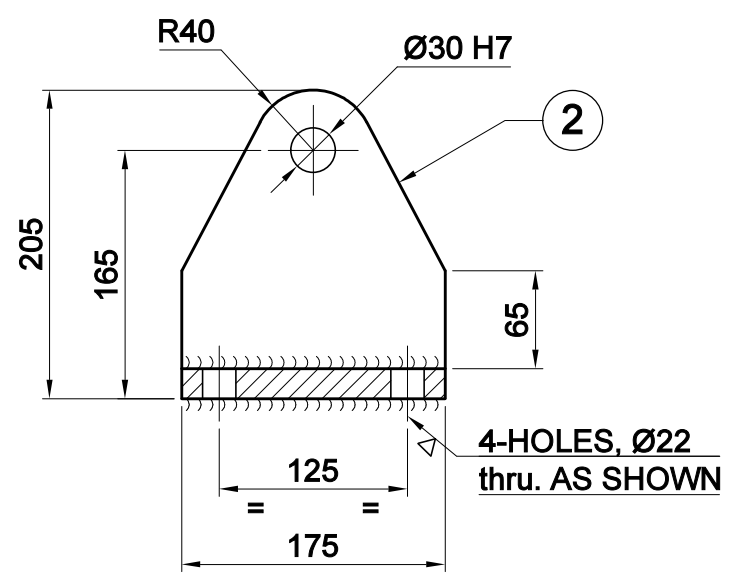
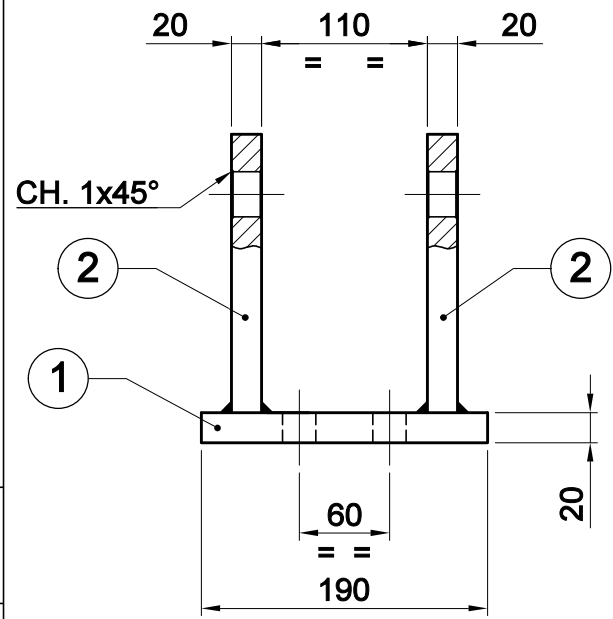


MAT'L: 40Ni2 Cr1 Mo28

| SI.No. | | DRG. No. | | DESCRIPTION | | | | | | MATERIAL | | No. OFF | | PER PCE. TOTAL WEIGHT kg. | | REMARKS | | | | | |
|---|--|------------------------------|--|---|--|-------|------|----------------------------|-----|--|-----|------------------------|-----|---------------------------|------|---------|-----|---------------|------------|----------|--|
| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | | | | | | DEPT. : AUTO GRINDING SHOP | | | | | | TOTAL Wt. kg | | | | | | | |
| W.O.No. : 16 - 1 - 122 | | | |  | | | | | | <div>Mishra Dhatu Nigam Ltd</div> <div>SUPER ALLOYS PLANT</div> <div>HYDERABAD</div> | | | | | | | | | | | |
| | | NAME | | | | | | | | | | | | | | | | | | DATE | |
| DESIGNED | | | | | | | | | | | | | | | | | | | | | |
| DRAWN | | ASP | | | | | | | | | | | | | | | | | | 06/04/17 | |
| CHECKED | | | | | | ▽▽▽ | | | ▽▽▽ | | | ▽▽ | | | ▽ | | ~ | | SUPERSEDES | | |
| APPROVED | | | | | | N1 | N2 | N3 | N4 | N5 | N6 | N7 | N8 | N9 | N10 | N11 | N12 | | | | |
| | | | | | | 0.025 | 0.05 | 0.1 | 0.2 | 0.4 | 0.8 | 1.6 | 3.2 | 6.3 | 12.5 | 25 | 50 | SUPERSEDED BY | | | |
| FINISH ▽ IF NOT SHOWN | | | | SURFACE FINISH IN μm AS PER IS:696 - 1972 | | | | | | | | | | | | | | | | | |
| SCALE - 1 : 1 | | TITLE | | | | | | | | | | DRG. No. | | | | | | | | | |
|  | | HYD. CYL. CONNECTING PIN | | | | | | | | | | M42P001 - 11 - 09 - A4 | | | | | | | | | |
| | | (HORIZONTAL) (FOR MAIN BODY) | | | | | | | | | | SHEET 1 | | | | | | | | | |
| | | | | | | | | | | | | OF 1 | | | | | | | | | |

NOTE: 1.ALL DIMENSIONS ARE IN mm .U.O.S.
2.REMOVE BURRS & SHARP CORNERS
3.FREE MEASURE TOLERANCE SHOULD BE AS PER MEDIUM IS:2102 - 1969 U.O.S.


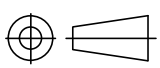
4.FOLLOW RELEVANT INDIAN STANDARDS FOR MANUFACTURE
5.DO NOT SCALE DRAWING.
6.ASK, IF IN DOUBT.



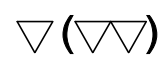
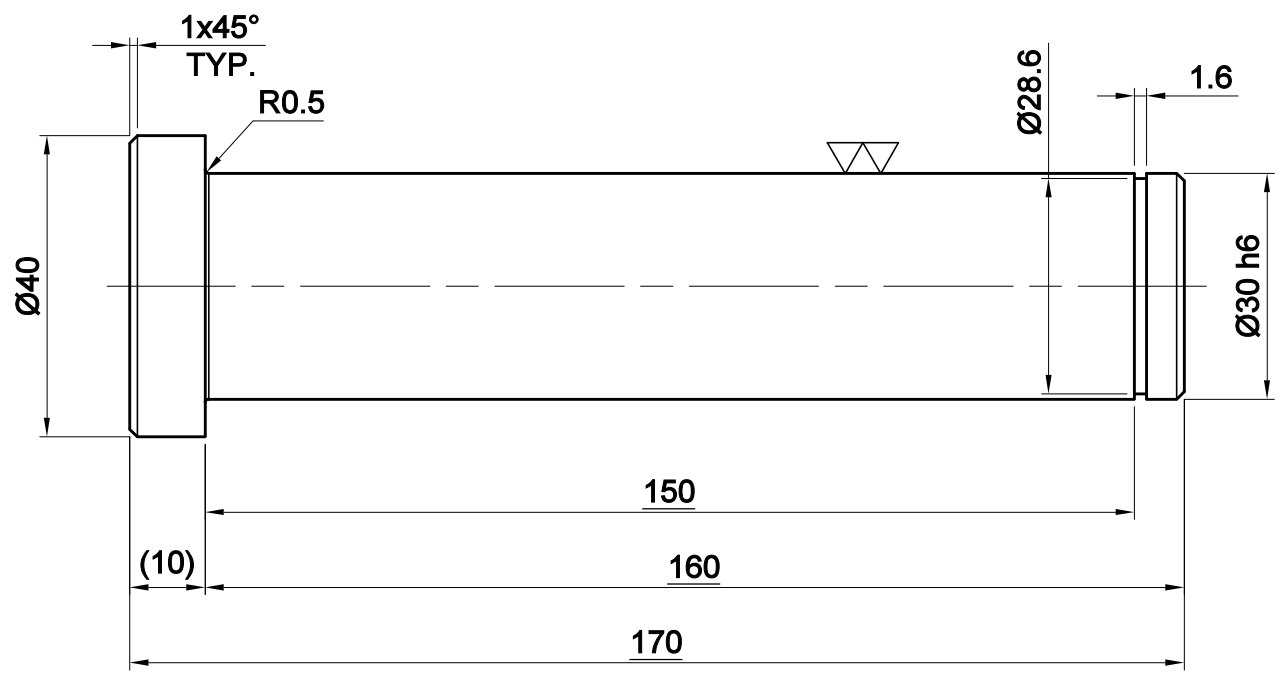
~ (▽)

NOTE:
ALL WELDS ARE OF 6 mm SIZE


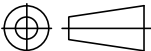
MAT'L.: St 42S, IS : 226 - 75

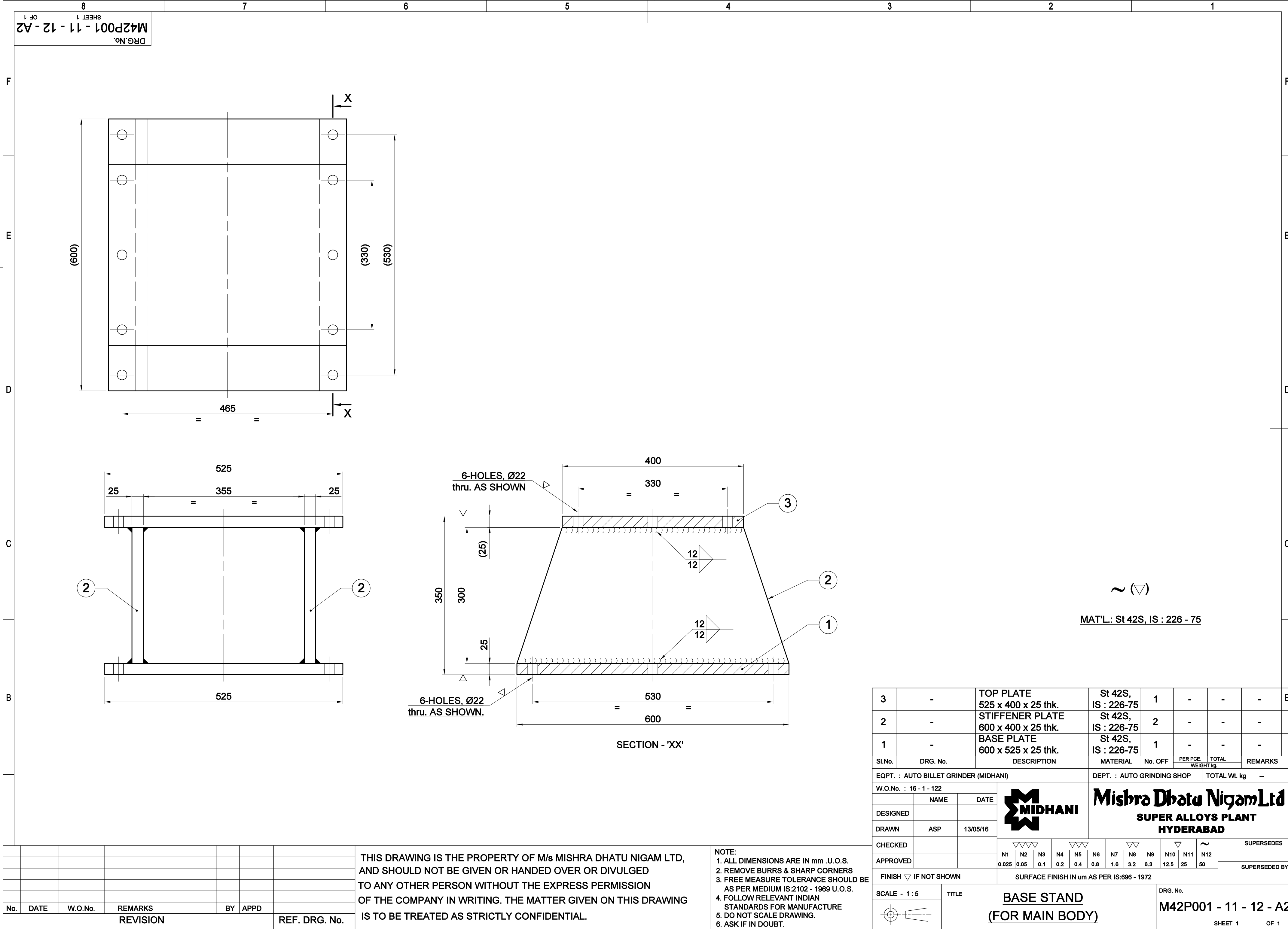
| | | | | | | | | | | | | | | | |
|---|----------|---|--|---------|------------|--------------|---------|----------|-----|-----|-----|------|-----|---------------|------------------------|
| 2 | - | PLATE - 2 185 x 175 x 20 thk. | St 42S, IS : 226-75 | 4 | | | | | | | | | | | |
| 1 | - | PLATE - 1 190 x 175 x 20 thk. | St 42S, IS : 226-75 | 2 | - | - | - | | | | | | | | |
| Sl.No. | DRG. No. | DESCRIPTION | MATERIAL | No. OFF | PER PCE. | TOTAL | REMARKS | | | | | | | | |
| | | | | | WEIGHT kg. | | | | | | | | | | |
| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | DEPT. : AUTO GRINDING SHOP | | | TOTAL Wt. kg | | | | | | | | | |
| W.O.No. : 16 - 1 - 122 | |  | <div>Mishra Dhatu Nigam Ltd</div> <div>SUPER ALLOYS PLANT</div> <div>HYDERABAD</div> | | | | | | | | | | | | |
| | NAME | | | | | | | DATE | | | | | | | |
| DESIGNED | | | | | | | | | | | | | | | |
| DRAWN | ASP | | | | | | | 06/04/17 | | | | | | | |
| CHECKED | | | | | | | | | | | | | | | |
| APPROVED | | | ▽▽▽▽ | | | ▽▽▽ | | | ▽▽ | | | ▽ | | ~ | SUPERSEDES |
| | | | N1 | N2 | N3 | N4 | N5 | N6 | N7 | N8 | N9 | N10 | N11 | N12 | SUPERSEDED BY |
| | | | 0.025 | 0.05 | 0.1 | 0.2 | 0.4 | 0.8 | 1.6 | 3.2 | 6.3 | 12.5 | 25 | 50 | |
| FINISH ▽ IF NOT SHOWN | | SURFACE FINISH IN μm AS PER IS:696 - 1972 | | | | | | | | | | | | SUPERSEDED BY | |
| SCALE - 1 : 5 | | TITLE | | | | | | | | | | | | | DRG. No. |
|  | | PISTON CONNECTING BRACKET | | | | | | | | | | | | | M42P001 - 11 - 10 - A4 |
| | | (HORIZONTAL) | | | | | | | | | | | | SHEET 1 | OF 1 |

NOTE: 1.ALL DIMENSIONS ARE IN mm .U.O.S.
2.REMOVE BURRS & SHARP CORNERS
3.FREE MEASURE TOLERANCE SHOULD BE AS PER MEDIUM IS:2102 - 1969 U.O.S.
4.FOLLOW RELEVANT INDIAN STANDARDS FOR MANUFACTURE
5.DO NOT SCALE DRAWING.
6.ASK, IF IN DOUBT.

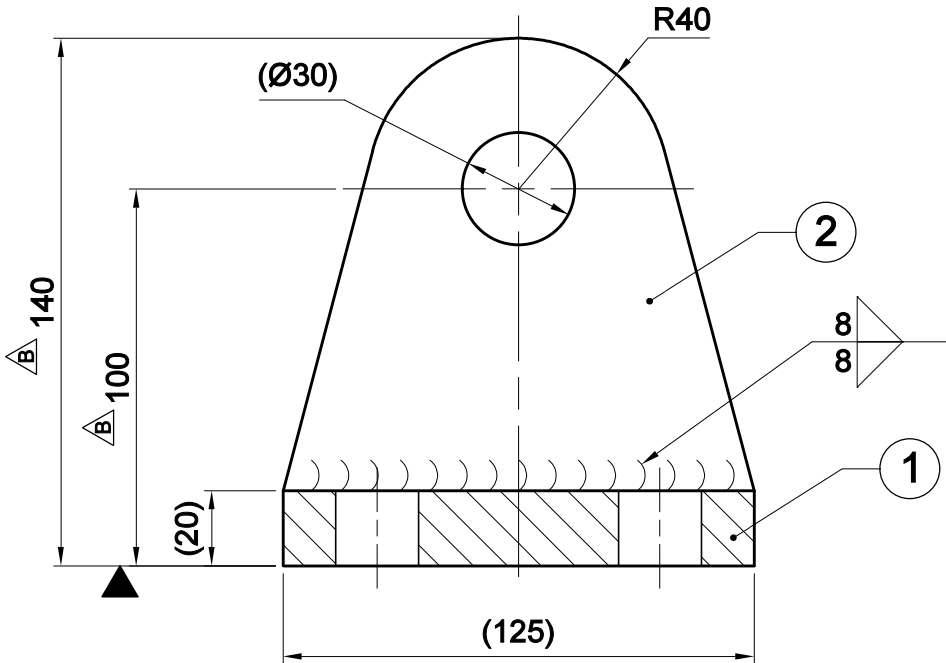
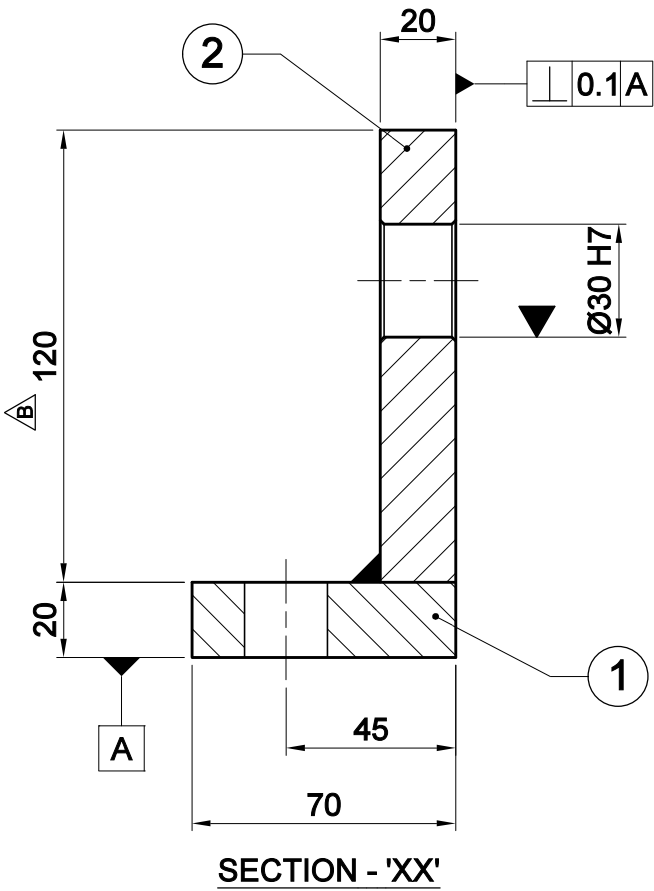
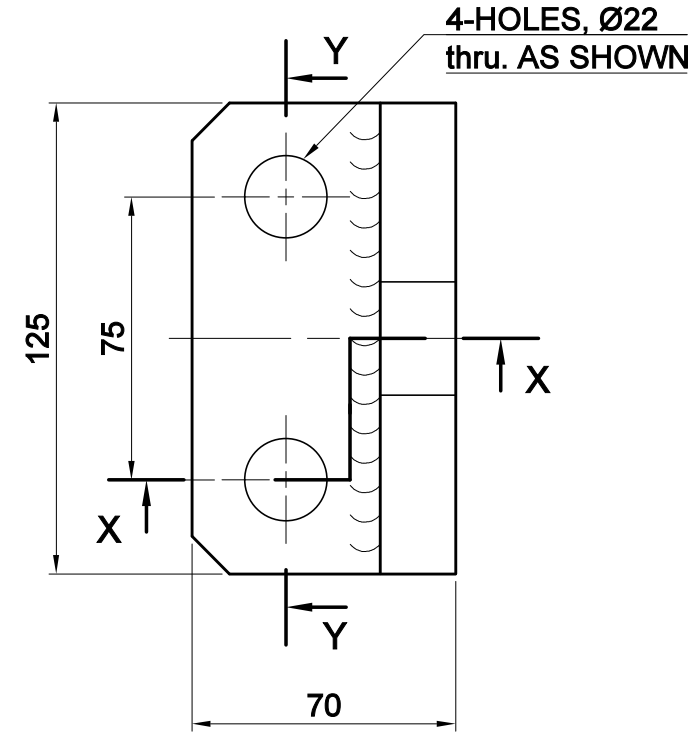


MAT'L.: 40Ni2 Cr1 Mo28

| SI.No. | | DRG. No. | | DESCRIPTION | | | | | | MATERIAL | | No. OFF | | PER PCE. TOTAL WEIGHT kg. | | REMARKS | | | | |
|---|------|------------------------------|------|---|--|-------|------|----------------------------|-----|--|-----|------------------------|-----|---------------------------|------|---------|-----|---------------|------------|----------|
| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | | | | | | DEPT. : AUTO GRINDING SHOP | | | | | | TOTAL Wt. kg | | | | | | |
| W.O.No. : 16 - 1 - 122 | | | |  | | | | | | <div>Mishra Dhatu Nigam Ltd</div> <div>SUPER ALLOYS PLANT</div> <div>HYDERABAD</div> | | | | | | | | | | |
| | NAME | | DATE | | | | | | | | | | | | | | | | | |
| DESIGNED | | | | | | | | | | | | | | | | | | | | |
| DRAWN | | ASP | | | | | | | | | | | | | | | | | | 20/01/17 |
| CHECKED | | | | | | ▽▽▽ | | | ▽▽▽ | | | ▽▽ | | | ▽ | | ~ | | SUPERSEDES | |
| APPROVED | | | | | | N1 | N2 | N3 | N4 | N5 | N6 | N7 | N8 | N9 | N10 | N11 | N12 | | | |
| | | | | | | 0.025 | 0.05 | 0.1 | 0.2 | 0.4 | 0.8 | 1.6 | 3.2 | 6.3 | 12.5 | 25 | 50 | SUPERSEDED BY | | |
| FINISH ▽ IF NOT SHOWN | | | | SURFACE FINISH IN μm AS PER IS:696 - 1972 | | | | | | | | | | | | | | | | |
| SCALE - 1 : 2 | | TITLE | | | | | | | | | | DRG. No. | | | | | | | | |
|  | | PISTON CONNECTING PIN | | | | | | | | | | M42P001 - 11 - 11 - A4 | | | | | | | | |
| | | (HORIZONTAL) (FOR MAIN BODY) | | | | | | | | | | SHEET 1 OF 1 | | | | | | | | |





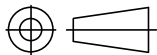
THIS DRAWING IS THE PROPERTY OF M/s MISHRA DHATU NIGAM LTD, AND SHOULD NOT BE GIVEN OR HANDED OVER OR DIVULGED TO ANY OTHER PERSON WITHOUT THE EXPRESS PERMISSION OF THE COMPANY IN WRITING. THE MATTER GIVEN ON THIS DRAWING IS TO BE TREATED AS STRICTLY CONFIDENTIAL.



SECTION - 'YY'

~ (▽)

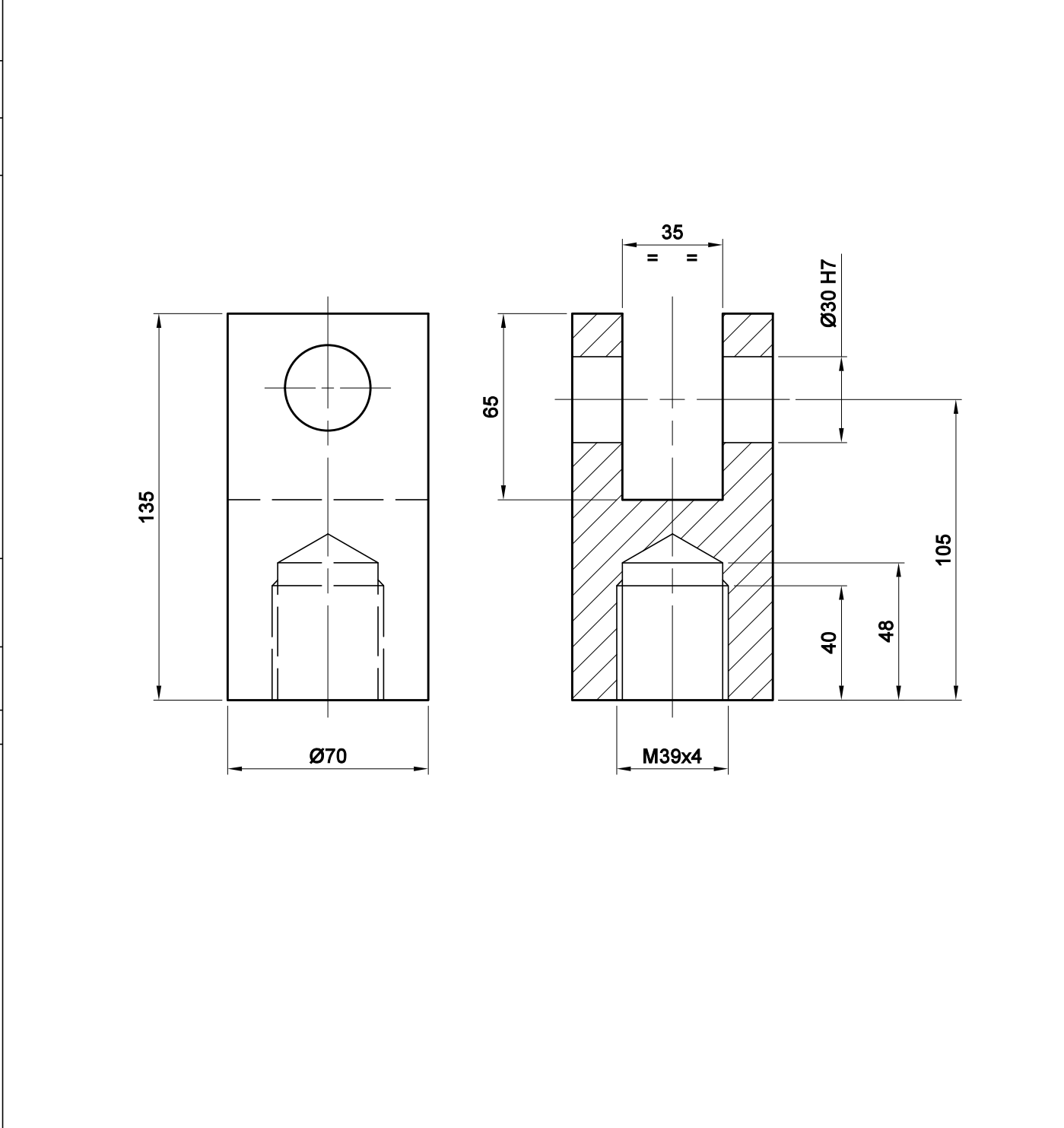
MAT'L.: St 42S, IS : 226 - 75

| | | | | | | | | | | | | | | | |
|---|----------|---|---|----|-----|----------------------------|---|----|----|--------------|---|-------|------------|-----|-----|
| 2 | - | VERTICAL PLATE 125 x 120 x 20 thk. | | | | St 42S, IS : 226-75 | | | | 1 | - | - | - | | |
| 1 | - | BASE PLATE 125 x 70 x 20 thk. | | | | St 42S, IS : 226-75 | | | | 1 | - | - | - | | |
| Sl.No. | DRG. No. | DESCRIPTION | | | | MATERIAL | | | | No. OFF | PER PCE. WEIGHT kg. | TOTAL | REMARKS | | |
| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | | | | DEPT. : AUTO GRINDING SHOP | | | | TOTAL Wt. kg | | | | | |
| W.O.No. : 16 - 1 - 122 | | |  | | | |  | | | | | | | | |
| | NAME | DATE | | | | | | | | | | | | | |
| DESIGNED | | | | | | | | | | | | | | | |
| DRAWN/SCAN | ASP | 06/04/17 | | | | | | | | | | | | | |
| CHECKED | | | ▽▽▽▽ | | ▽▽▽ | | ▽▽ | | | ▽ | | ~ | SUPERSEDES | | |
| APPROVED | | | N1 | N2 | N3 | N4 | N5 | N6 | N7 | N8 | N9 | N10 | | N11 | N12 |
| FINISH ▽ IF NOT SHOWN | | SURFACE FINISH IN um AS PER IS:696 - 1972 | | | | | | | | | | | | | |
| SCALE - 1 : 2 | | | TITLE <u>HYD. CYL. CONNECTING</u> <u>BRACKET (HORIZONTAL TOP CYL.)</u> | | | | | | | | DRG. No. M42P001 - 11 - 13 - B3 SHEET 1 OF 1 | | | | |
|  | | | | | | | | | | | | | | | |

| | | | | | | |
|----------|----------|---------|--|-----|---------------|--|
| | | | | | | |
| B | 22-05-18 | - | DIM. 100, 120 & 140 WERE 80, 100 & 120 | ASP | SASIDHARAN | |
| No. | DATE | W.O.No. | REMARKS | BY | APPD | |
| REVISION | | | | | REF. DRG. No. | |

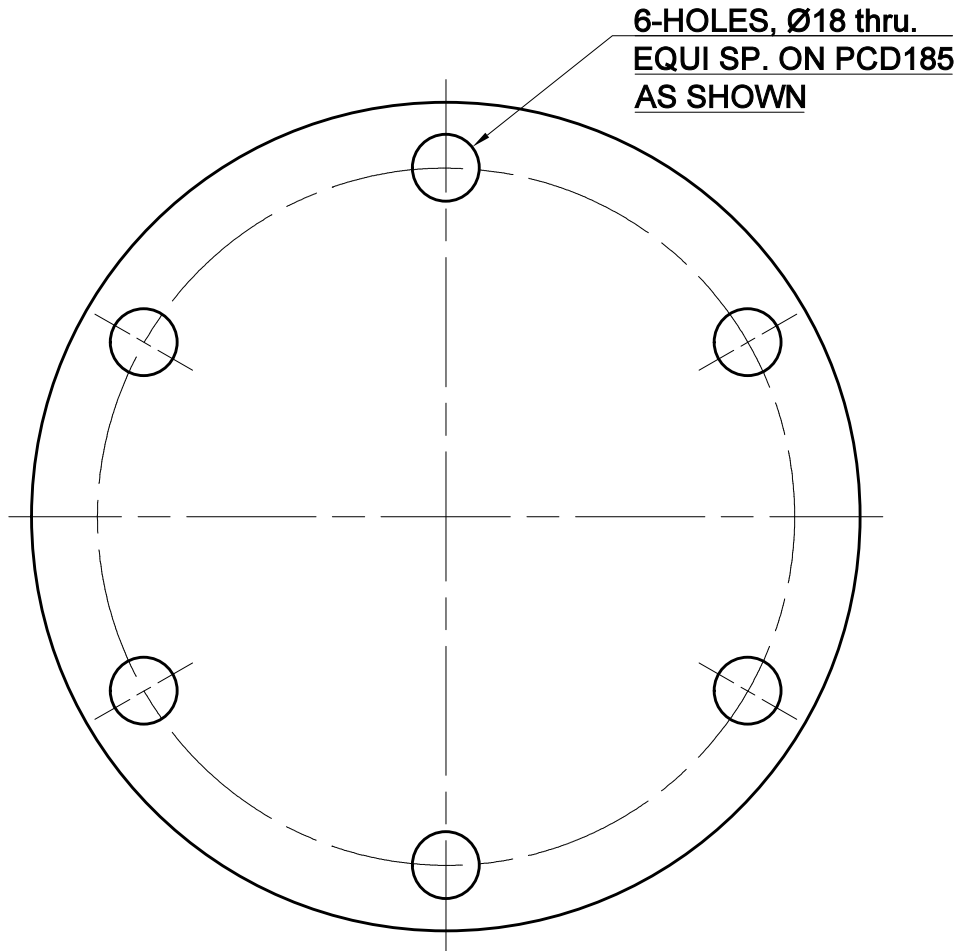
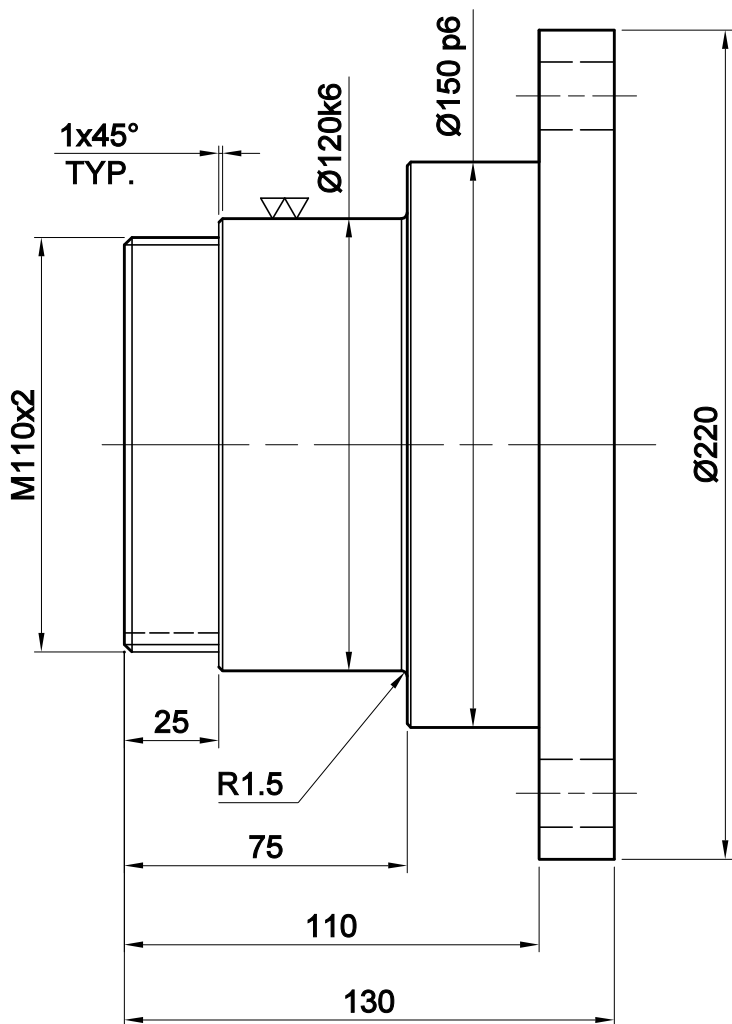
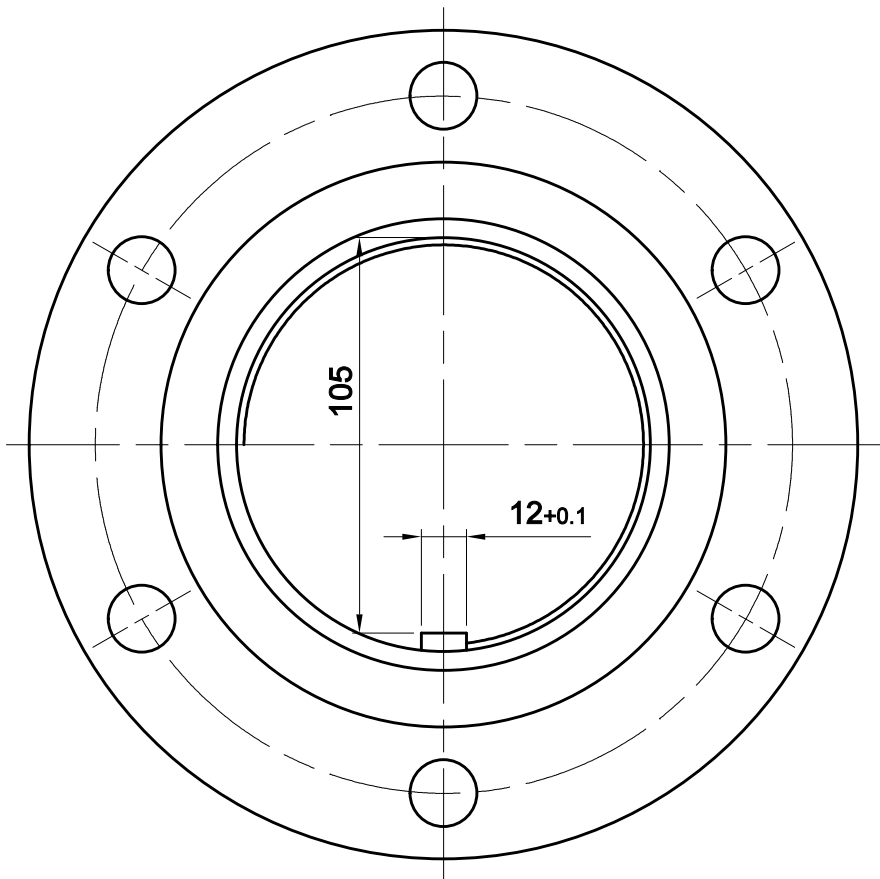
NOTE:
1. ALL DIMENSIONS ARE IN mm .U.O.S.
2. REMOVE BURRS & SHARP CORNERS
3. FREE MEASURE TOLERANCE SHOULD BE AS PER MEDIUM IS:2102 - 1969 U.O.S.
4. FOLLOW RELEVANT INDIAN STANDARDS FOR MANUFACTURE
5. DO NOT SCALE DRAWING.
6. ASK, IF IN DOUBT.

NOTE: 1.ALL DIMENSIONS ARE IN mm .U.O.S.
2.REMOVE BURRS & SHARP CORNERS
3.FREE MEASURE TOLERANCE SHOULD BE AS PER MEDIUM IS:2102 - 1969 U.O.S.
4.FOLLOW RELEVANT INDIAN STANDARDS FOR MANUFACTURE
5.DO NOT SCALE DRAWING.
6.ASK, IF IN DOUBT.



| | | | | | | | |
|---------------------------------------|----------|-------------|---|---------|------------------------|-------|---------|
| SI.No. | DRG. No. | DESCRIPTION | MATERIAL | No. OFF | PER PCE. | TOTAL | REMARKS |
| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | DEPT. : AUTO GRINDING SHOP | | WEIGHT kg. | | |
| W.O.No. : 16 - 1 - 122 | | | Mishra Dhatu Nigam Ltd | | SUPER ALLOYS PLANT | | |
| DESIGNED | | | MIDHANI | | HYDERABAD | | |
| DRAWN | | | ASP | | 06/04/17 | | |
| CHECKED | | | | | | | |
| APPROVED | | | | | | | |
| FINISH ▽ IF NOT SHOWN | | | SURFACE FINISH IN μm AS PER IS:696 - 1972 | | SUPERSEDES | | |
| SCALE - 1 : 2 | | | TITLE | | DRG. No. | | |
| CONNECTING YOKE | | | (FOR VERTICAL CYLINDER) | | M42P001 - 11 - 14 - A4 | | |
| SHEET 1 | | | OF 1 | | | | |

DRG. No. M42P001 - 11 - 15 - A3
SHEET 1 OF 1

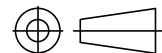

$$\nabla \quad (\nabla \nabla)$$

MATERIAL.: 40Ni2 Cr1 Mo28, IS : 1570 - 61

| | | | | | | |
|-----------------|-------------|----------------|----------------|-----------|-------------|----------------------|
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| | | | | | | |
| | | | | | | |
| No. | DATE | W.O.No. | REMARKS | BY | APPD | |
| REVISION | | | | | | REF. DRG. No. |

NOTE:

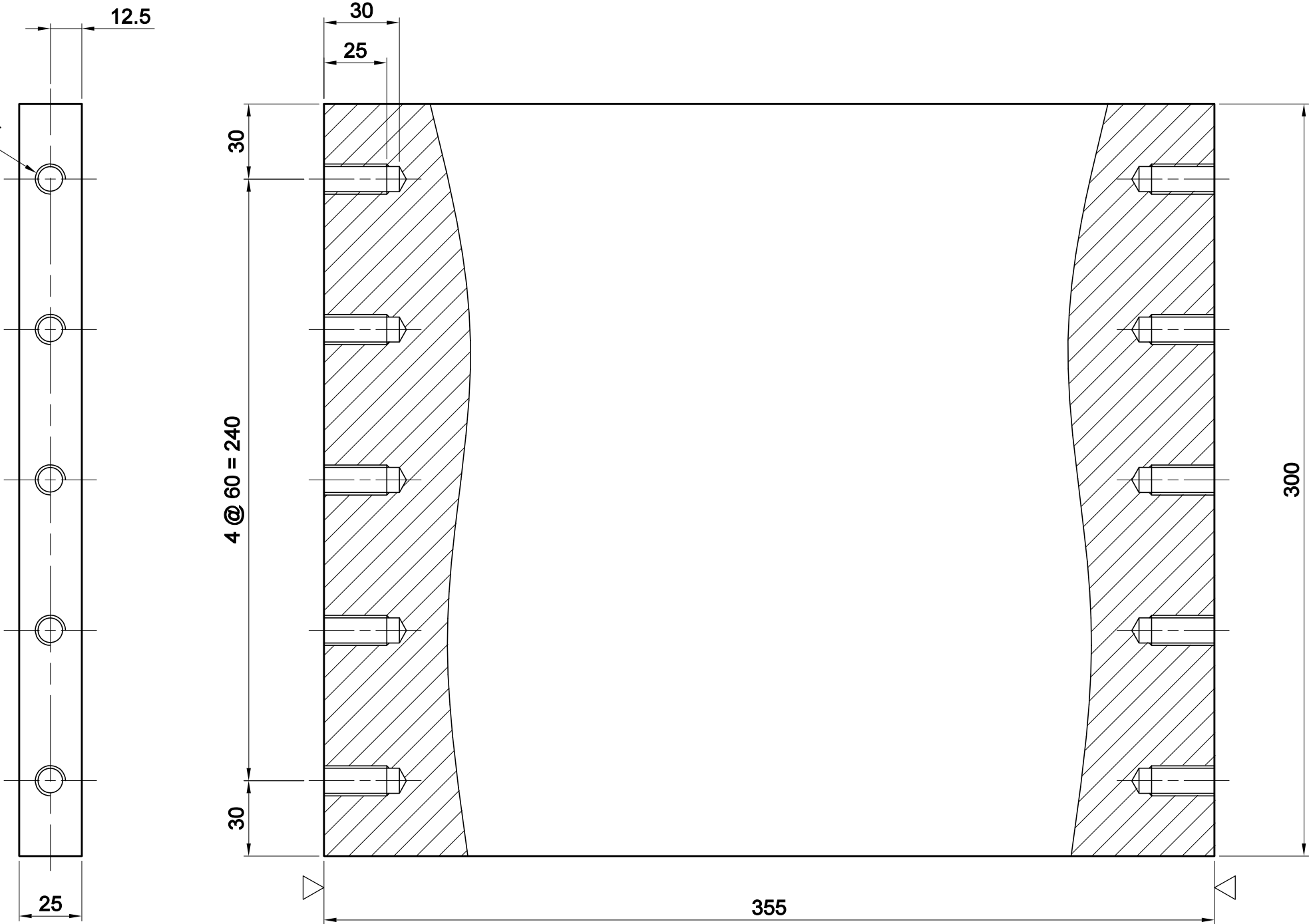
- 1. ALL DIMENSIONS ARE IN mm .U.O.S.**
- 2. REMOVE BURRS & SHARP CORNERS**
- 3. FREE MEASURE TOLERANCE SHOULD BE AS PER MEDIUM IS:2102 - 1969 U.O.S.**
- 4. FOLLOW RELEVANT INDIAN STANDARDS FOR MANUFACTURE**
- 5. DO NOT SCALE DRAWING.**
- 6. ASK, IF IN DOUBT.**

| Sl.No. | DRG. No. | DESCRIPTION | | | | | | | | | MATERIAL | No. OFF | PER PCE. | TOTAL WEIGHT kg. | REMARKS | | |
|---|----------|----------------------------|---|------|-----|-----|-----|-----|-----|-----|----------------------------|--|----------|------------------|---------------|--|--|
| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | | | | | | | | | DEPT. : AUTO GRINDING SHOP | | | TOTAL Wt. kg | | | |
| W.O.No. : 16 - 1 - 122 | | | <div>MIDHANI</div> | | | | | | | | | <div>Mishra Dhatu Nigam Ltd</div> <div>SUPER ALLOYS PLANT</div> <div>HYDERABAD</div> | | | | | |
| | NAME | DATE | | | | | | | | | | | | | | | |
| DESIGNED | | | | | | | | | | | | | | | | | |
| DRAWN/SCAN | ASP | 15/09/17 | | | | | | | | | | | | | | | |
| CHECKED | | | ▽▽▽▽ | | | ▽▽▽ | | | ▽▽ | | | ▽ | ~ | SUPERSEDES | | | |
| APPROVED | | | N1 | N2 | N3 | N4 | N5 | N6 | N7 | N8 | N9 | N10 | N11 | | N12 | | |
| | | | 0.025 | 0.05 | 0.1 | 0.2 | 0.4 | 0.8 | 1.6 | 3.2 | 6.3 | 12.5 | 25 | | 50 | | |
| FINISH ▽ IF NOT SHOWN | | | SURFACE FINISH IN um AS PER IS:696 - 1972 | | | | | | | | | | | | SUPERSEDED BY | | |
| SCALE - 1 : 2 | | TITLE <div>HINGE PIN</div> | | | | | | | | | DRG. No. | | | | | | |
|  | | | | | | | | | | | M42P001 - 11 - 15 - A3 | | | | | | |
| | | | | | | | | | | | SHEET 1 OF 1 | | | | | | |

THIS DRAWING IS THE PROPERTY OF M/s MISHRA DHATU NIGAM LTD, AND SHOULD NOT BE GIVEN OR HANDED OVER OR DIVULGED TO ANY OTHER PERSON WITHOUT THE EXPRESS PERMISSION OF THE COMPANY IN WRITING. THE MATTER GIVEN ON THIS DRAWING IS TO BE TREATED AS STRICTLY CONFIDENTIAL.

DRG. No.
M42P001 - 11 - 17 - A3
SHEET 1 OF 1

5-HOLES, TAPPED M12
AS SHOWN (EACH SIDE)



~ (▽)

MAT'L.: St 42S, IS : 226 - 75

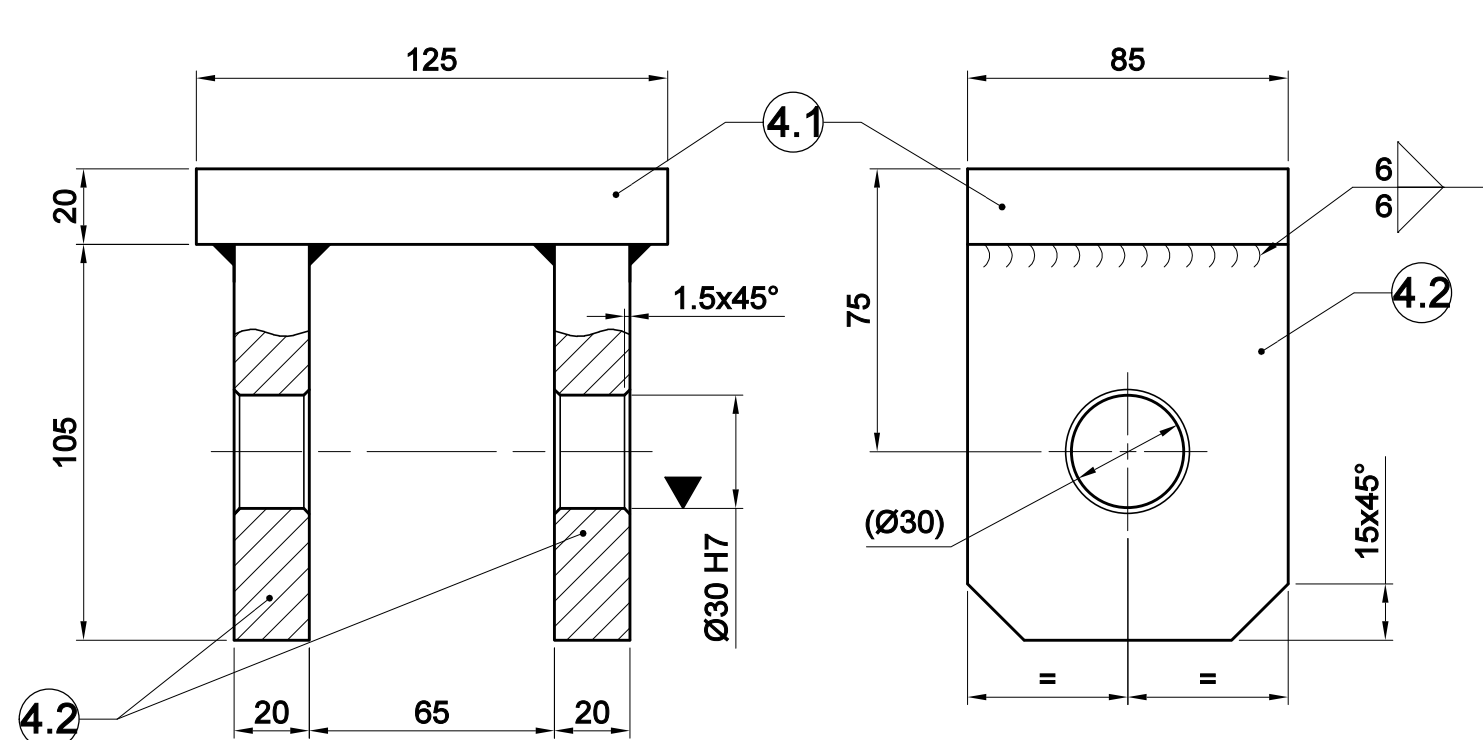
- NOTE:
1. ALL DIMENSIONS ARE IN mm .U.O.S.
 2. REMOVE BURRS & SHARP CORNERS
 3. FREE MEASURE TOLERANCE SHOULD BE AS PER MEDIUM IS:2102 - 1969 U.O.S.
 4. FOLLOW RELEVANT INDIAN STANDARDS FOR MANUFACTURE
 5. DO NOT SCALE DRAWING.
 6. ASK, IF IN DOUBT.

| Sl.No. | DRG. No. | DESCRIPTION | | | | | | | | | MATERIAL | No. OFF | PER PCE. | TOTAL | REMARKS | | |
|---------------------------------------|----------|---|---|------|-----|-----|-----|-----|-----|-----|----------------------------|--|----------|--------------|---------------|--|--|
| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | | | | | | | | | DEPT. : AUTO GRINDING SHOP | | | TOTAL Wt. kg | | | |
| W.O.No. : 18 - 2 - 032 | | | <div>MIDHANI</div> | | | | | | | | | <div>Mishra Dhatu Nigam Ltd</div> <div>SUPER ALLOYS PLANT</div> <div>HYDERABAD</div> | | | | | |
| | NAME | DATE | | | | | | | | | | | | | | | |
| DESIGNED | | | | | | | | | | | | | | | | | |
| DRAWN/SCAN | ASP | 22/05/18 | | | | | | | | | | | | | | | |
| CHECKED | | | ▽▽▽▽ | | | ▽▽▽ | | | ▽▽ | | | ▽ | ~ | SUPERSEDES | | | |
| APPROVED | | | N1 | N2 | N3 | N4 | N5 | N6 | N7 | N8 | N9 | N10 | N11 | | N12 | | |
| | | | 0.025 | 0.05 | 0.1 | 0.2 | 0.4 | 0.8 | 1.6 | 3.2 | 6.3 | 12.5 | 25 | | 50 | | |
| FINISH ▽ IF NOT SHOWN | | | SURFACE FINISH IN um AS PER IS:696 - 1972 | | | | | | | | | | | | SUPERSEDED BY | | |
| | | | | | | | | | | | | | | | | | |
| SCALE - 1 : 2 | | TITLE | | | | | | | | | | | | | | | |
| | | <div>CONNECTING PLATE</div> <div>(FOR MAIN BODY)</div> | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | <div>DRG. No.</div> <div>M42P001 - 11 - 17 - A3</div> <div>SHEET 1 OF 1</div> | | | | | | | | | | | | | | | |

| No. | DATE | W.O.No. | REMARKS | BY | APPD | REF. DRG. No. |
|----------|------|---------|---------|----|------|---------------|
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| REVISION | | | | | | |

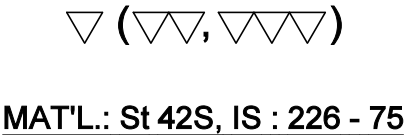


2



4

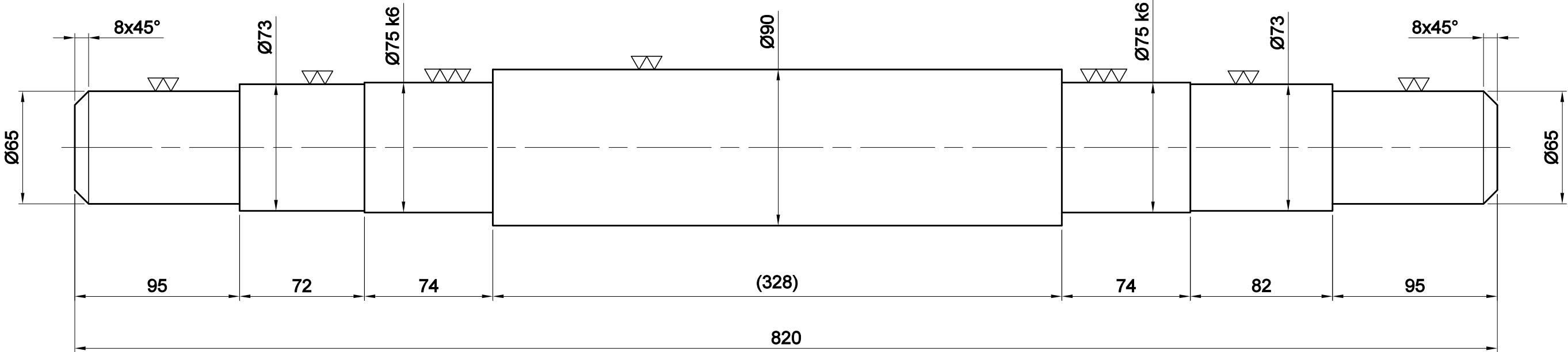
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|----------|----------|--------------|--------------------------------|-----|-------------|---------------|
| | | | | | | |
| | | | | | | |
| | | | | | | |
| C | 26-09-18 | - | HOLE Ø12 WAS M10 | ASP | MAHESH | |
| B | 31-05-18 | 18 - 2 - 032 | M10 TAPPED HOLE (4-No'S) ADDED | ASP | SASI DHARAN | |
| No. | DATE | W.O.No. | REMARKS | BY | APPD | |
| REVISION | | | | | | REF. DRG. No. |



A3

THIS DRAWING IS THE PROPERTY OF M/s MISHRA DHATU NIGAM LTD. AND SHOULD NOT BE GIVEN OR HANDED OVER OR DIVULGED TO ANY OTHER PERSON WITHOUT THE EXPRESS PERMISSION OF THE COMPANY IN WRITING. THE MATTER GIVEN ON THIS DRAWING IS TO BE TREATED AS STRICTLY CONFIDENTIAL.


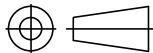
DRG. No.
M42P001 - 12 - 04 - A3
SHEET 1 OF 1



MAT'L.: 40 Ni2 Cr1 Mo28

| | | | | | |
|----------|------|---------|---------|---------------|------|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| No. | DATE | W.O.No. | REMARKS | BY | APPD |
| REVISION | | | | REF. DRG. No. | |

- NOTE:
1. ALL DIMENSIONS ARE IN mm .U.O.S.
 2. REMOVE BURRS & SHARP CORNERS
 3. FREE MEASURE TOLERANCE SHOULD BE AS PER MEDIUM IS:2102 - 1969 U.O.S.
 4. FOLLOW RELEVANT INDIAN STANDARDS FOR MANUFACTURE
 5. DO NOT SCALE DRAWING.
 6. ASK, IF IN DOUBT.

| Sl.No. | DRG. No. | DESCRIPTION | | | | | | | | MATERIAL | No. OFF | PER PCE. | TOTAL | REMARKS | | |
|---|----------|---|--|------|-----|-----|-----|-----|--|----------------------------|---------|------------------------|------------|---------|---------------|-----|
| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | | | | | | | | DEPT. : AUTO GRINDING SHOP | | | WEIGHT kg. | | | |
| | | | | | | | | | | | | | | | | |
| W.O.No. : 16 - 1 - 122 | | | <div></div> | | | | | | <div>Mishra Dhatu Nigam Ltd</div> <div>SUPER ALLOYS PLANT</div> <div>HYDERABAD</div> | | | | | | TOTAL Wt. kg | |
| | NAME | DATE | | | | | | | | | | | | | | |
| DESIGNED | | | | | | | | | | | | | | | | |
| DRAWN/SCAN | ASP | 07/06/16 | | | | | | | | | | | | | | |
| CHECKED | | | ▽▽▽▽ | | ▽▽▽ | | | ▽▽ | | ▽ | ~ | SUPERSEDES | | | | |
| APPROVED | | | N1 | N2 | N3 | N4 | N5 | N6 | N7 | N8 | N9 | | | N10 | N11 | N12 |
| | | | 0.025 | 0.05 | 0.1 | 0.2 | 0.4 | 0.8 | 1.6 | 3.2 | 6.3 | | | 12.5 | 25 | 50 |
| FINISH ▽ IF NOT SHOWN | | | SURFACE FINISH IN um AS PER IS:696 - 1972 | | | | | | | | | | | | SUPERSEDED BY | |
| | | | | | | | | | | | | | | | | |
| SCALE - 1 : 2 | | TITLE | | | | | | | | | | DRG. No. | | | | |
|  | | <div>SHAFT</div> <div>(GRINDER WHEEL ASSY.)</div> | | | | | | | | | | M42P001 - 12 - 04 - A3 | | | | |
| | | | | | | | | | | | | SHEET 1 OF 1 | | | | |

NOTE:

1.ALL DIMENSIONS ARE IN mm .U.O.S.

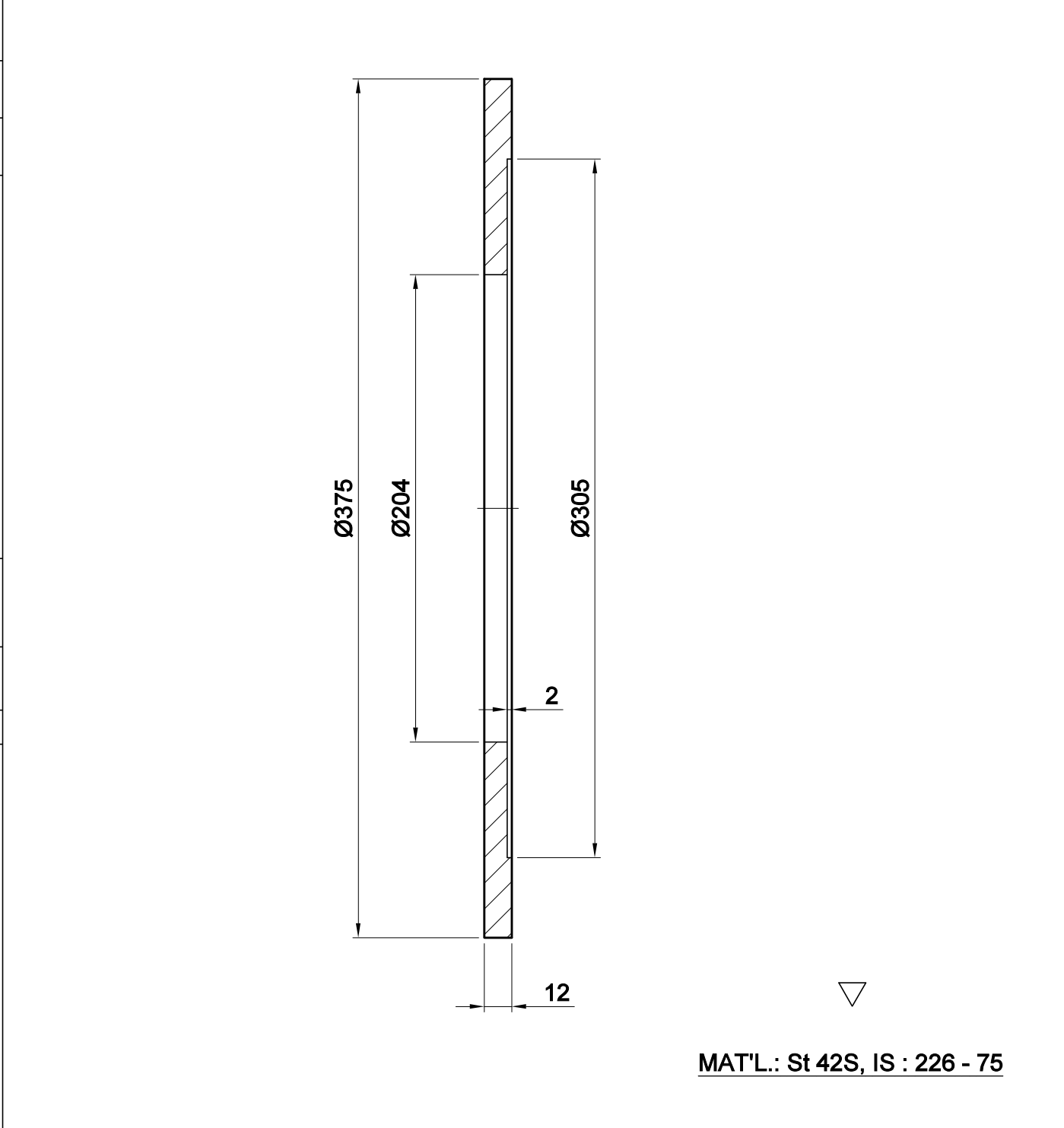
2.REMOVE BURRS & SHARP CORNERS

3.FREE MEASURE TOLERANCE SHOULD BE AS PER MEDIUM IS:2102 - 1969 U.O.S.

4.FOLLOW RELEVANT INDIAN STANDARDS FOR MANUFACTURE

5.DO NOT SCALE DRAWING.

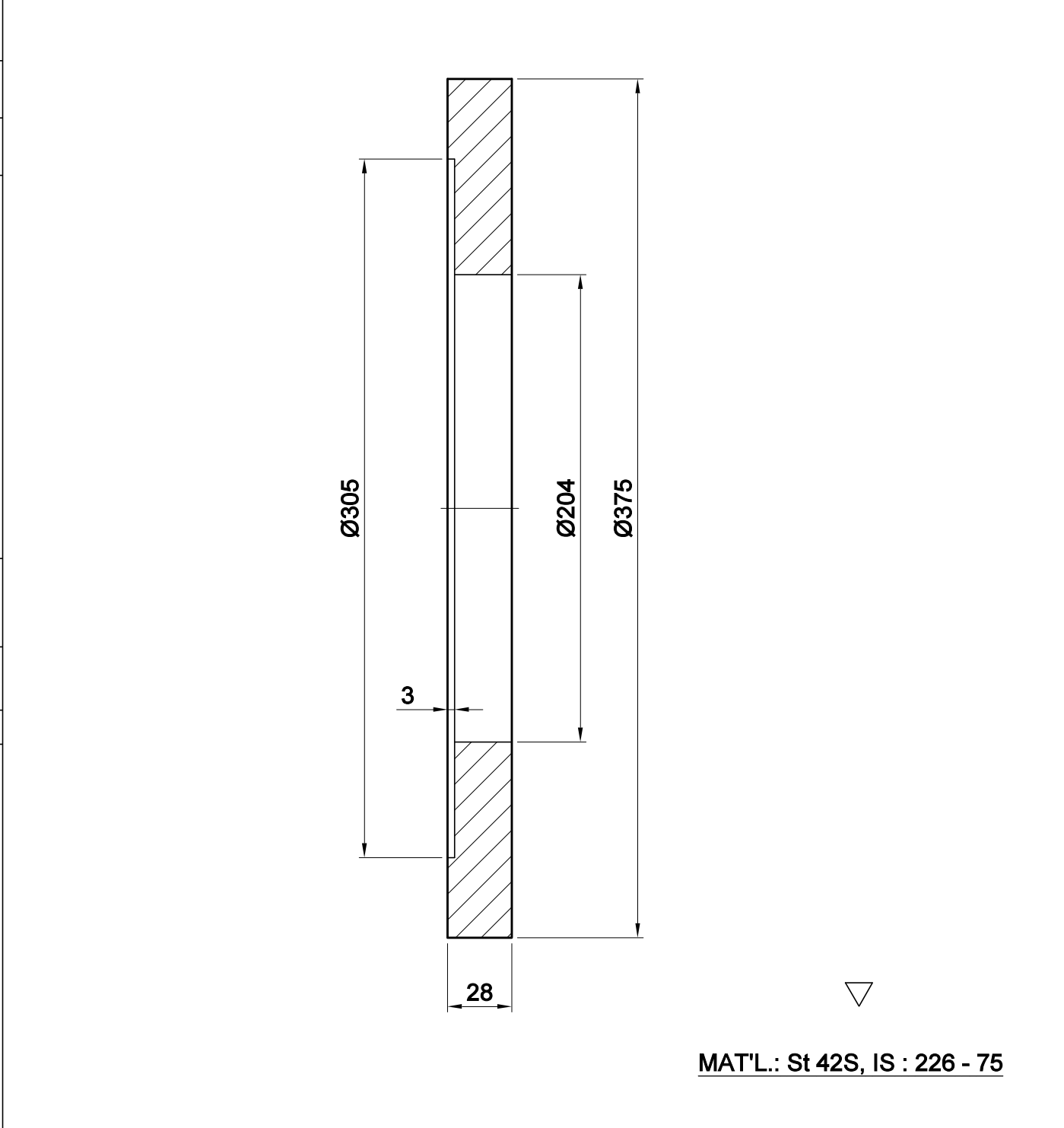
6.ASK, IF IN DOUBT.



MAT'L.: St 42S, IS : 226 - 75

| | | | | | | | | |
|---------------------------------------|----------|---|----------------------------|--|------------|-------|---------|---------------|
| Sl.No. | DRG. No. | DESCRIPTION | MATERIAL | No. OFF | PER PCE. | TOTAL | REMARKS | |
| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | DEPT. : AUTO GRINDING SHOP | | WEIGHT kg. | | | |
| W.O.No. : 16 - 1 - 122 | | | TOTAL Wt. kg | | | | | |
| DESIGNED | | NAME | DATE | <div><div><div>MIDHANI</div><div>Mishra Dhatu Nigam Ltd</div><div>SUPER ALLOYS PLANT</div><div>HYDERABAD</div></div></div> | | | | |
| DRAWN | | ASP | 06-06-16 | | | | | |
| CHECKED | | | | | | | | |
| APPROVED | | | | | | | | |
| FINISH ▽ IF NOT SHOWN | | SURFACE FINISH IN μm AS PER IS:696 - 1972 | | | | | | SUPERSEDES |
| SCALE - 1 : 2.5 | | TITLE | | | | | | SUPERSEDED BY |
| FLANGE - Ø375 x 12 | | DRG. No. | | | | | | |
| (GRINDER WHEEL ASSY.) | | M42P001 - 12 - 05 - A4 | | | | | | |
| SHEET 1 | | OF 1 | | | | | | |

NOTE: 1.ALL DIMENSIONS ARE IN mm .U.O.S.
2.REMOVE BURRS & SHARP CORNERS
3.FREE MEASURE TOLERANCE SHOULD BE AS PER MEDIUM IS:2102 - 1969 U.O.S.
4.FOLLOW RELEVANT INDIAN STANDARDS FOR MANUFACTURE
5.DO NOT SCALE DRAWING.
6.ASK, IF IN DOUBT.



MAT'L.: St 42S, IS : 226 - 75

| | | | | | | | |
|---|----------|---|----------------------------|---------|------------|--------------|---------|
| SI.No. | DRG. No. | DESCRIPTION | MATERIAL | No. OFF | PER PCE. | TOTAL | REMARKS |
| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | DEPT. : AUTO GRINDING SHOP | | WEIGHT kg. | | |
| W.O.No. : 16 - 1 - 122 | | | TOTAL Wt. kg | | | | |
| DESIGNED | | NAME | DATE | | | | |
| DRAWN | | ASP | 06-06-16 | | | | |
| CHECKED | | | | | | | |
| APPROVED | | | | | | | |
| FINISH ▽ IF NOT SHOWN | | SURFACE FINISH IN μm AS PER IS:696 - 1972 | | | | SUPERSEDES | |
| SCALE - 1 : 2.5 | | TITLE | | | | DRG. No. | |
| FLANGE - Ø375 x 28 (GRINDER WHEEL ASSY.) | | M42P001 - 12 - 06 - A4 | | | | SHEET 1 OF 1 | |

NOTE:

1.ALL DIMENSIONS ARE IN mm .U.O.S.

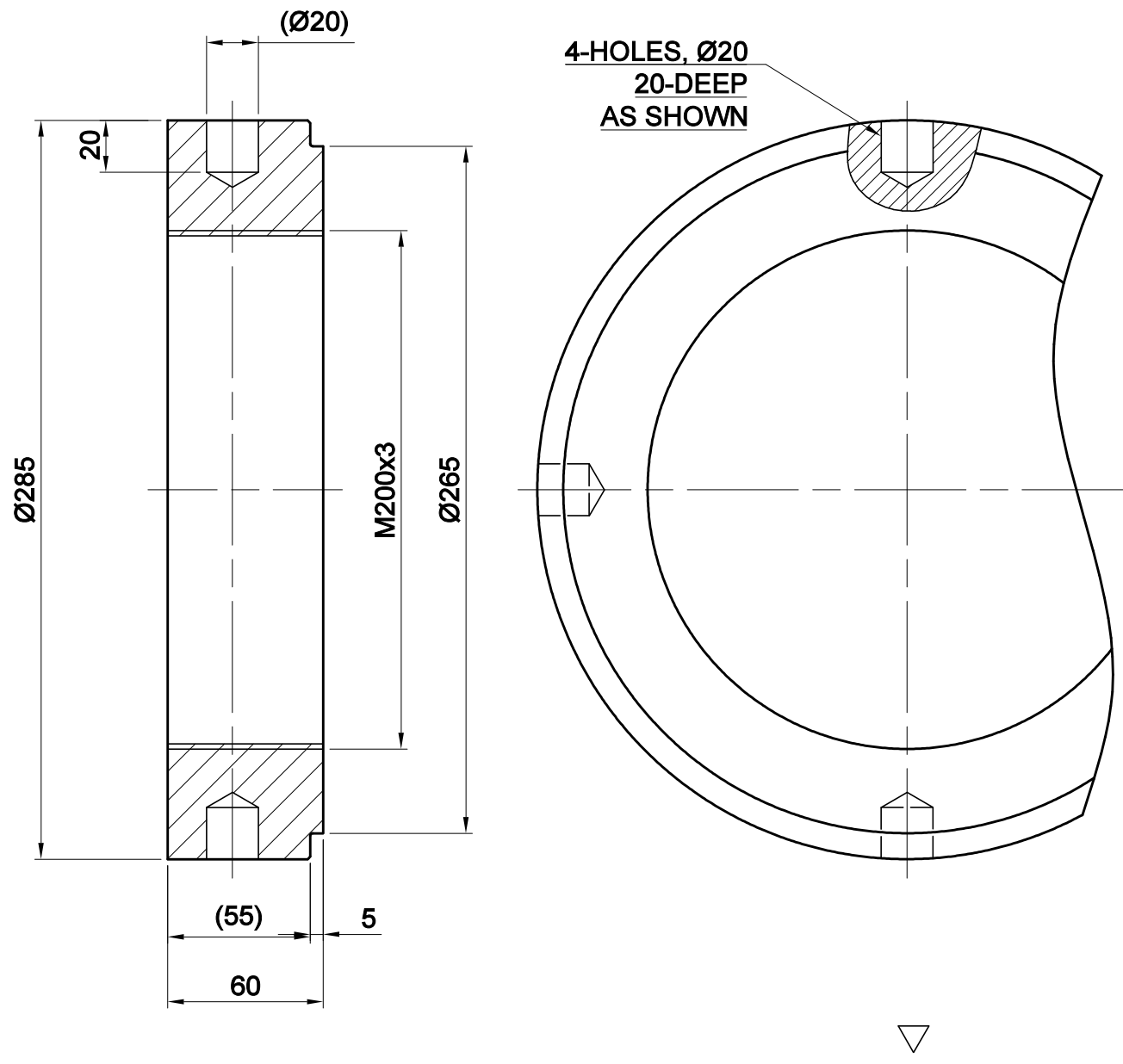
2.REMOVE BURRS & SHARP CORNERS

3.FREE MEASURE TOLERANCE SHOULD BE AS PER MEDIUM IS:2102 - 1969 U.O.S.

4.FOLLOW RELEVANT INDIAN STANDARDS FOR MANUFACTURE

5.DO NOT SCALE DRAWING.

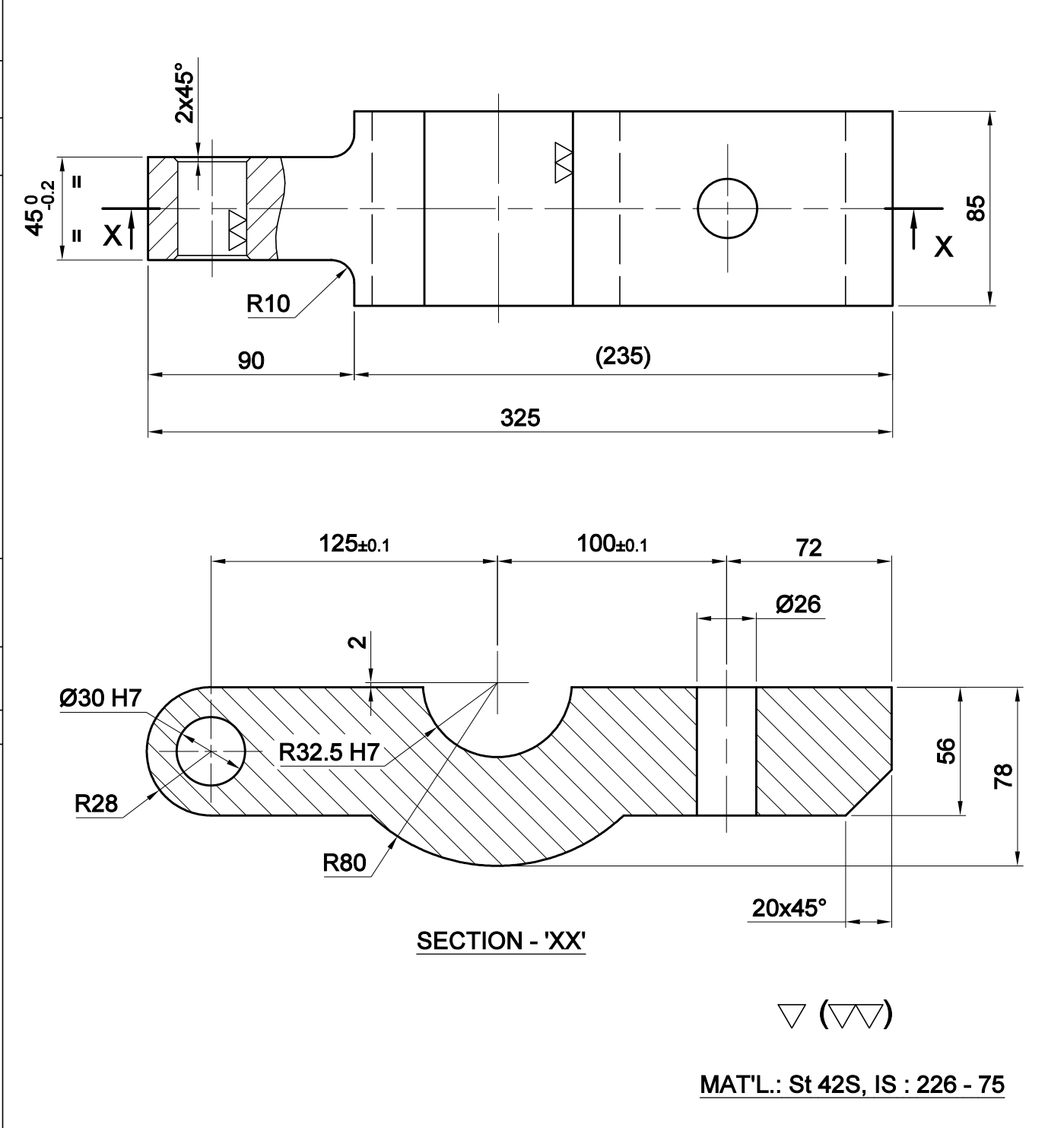
6.ASK, IF IN DOUBT.


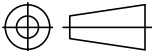


MAT'L.: St 42S, IS : 226 - 75

| | | | | | | | | |
|---------------------------------------|----------|-------------|---|---------|---------------------|-------|---------|------------------------|
| SI.No. | DRG. No. | DESCRIPTION | MATERIAL | No. OFF | PER PCE. WEIGHT kg. | TOTAL | REMARKS | |
| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | DEPT. : AUTO GRINDING SHOP | | TOTAL Wt. kg | | | |
| W.O.No. : 16 - 1 - 122 | | | <div><div>MIDHANI</div><div>Mishra Dhatu Nigam Ltd</div><div>SUPER ALLOYS PLANT</div><div>HYDERABAD</div></div> | | | | | |
| DESIGNED | NAME | DATE | | | | | | |
| DRAWN | ASP | 06-06-16 | | | | | | |
| CHECKED | | | | | | | | |
| APPROVED | | | | | | | | |
| FINISH ▽ IF NOT SHOWN | | | SURFACE FINISH IN µm AS PER IS:696 - 1972 | | | | | SUPERSEDES |
| SCALE - 1 : 2.5 | | | TITLE | | | | | DRG. No. |
| | | | LOCK NUT - M200x3 | | | | | M42P001 - 12 - 07 - A4 |
| | | | (GRINDER WHEEL ASSY.) | | | | | SHEET 1 OF 1 |

NOTE: 1.ALL DIMENSIONS ARE IN mm .U.O.S.
2.REMOVE BURRS & SHARP CORNERS
3.FREE MEASURE TOLERANCE SHOULD BE AS PER MEDIUM IS:2102 - 1969 U.O.S.
4.FOLLOW RELEVANT INDIAN STANDARDS FOR MANUFACTURE
5.DO NOT SCALE DRAWING.
6.ASK, IF IN DOUBT.

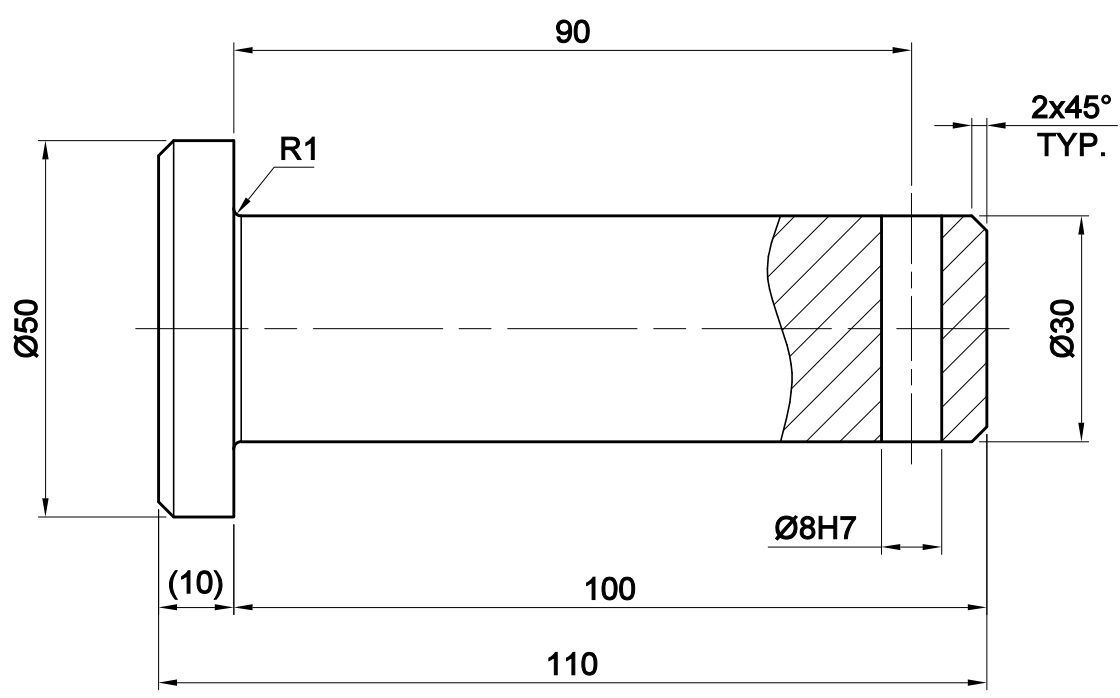


| | | | | | | | | | | | | | | | | | | |
|---|----------|--|---|------|-----|-----|-----|--|-----|----------------------------|-----|-----------------------------------|-----|--------------|---------------|---------|--|-----|
| SI.No. | DRG. No. | | DESCRIPTION | | | | | MATERIAL | | No. OFF | | PER PCE. | | TOTAL | | REMARKS | | |
| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | | | | | | | | DEPT. : AUTO GRINDING SHOP | | | | TOTAL Wt. kg | | | | |
| W.O.No. : 16 - 1 - 122 | | |  | | | | | <div>Mishra Dhatu Nigam Ltd</div> <div>SUPER ALLOYS PLANT</div> <div>HYDERABAD</div> | | | | | | | | | | |
| | NAME | DATE | | | | | | | | | | | | | | | | |
| DESIGNED | | | | | | | | | | | | | | | | | | |
| DRAWN | ASP | 06-06-16 | | | | | | | | | | | | | | | | |
| CHECKED | | | ▽▽▽ | | ▽▽▽ | | ▽▽ | | | ▽ | | ~ | | SUPERSEDES | | | | |
| APPROVED | | | N1 | N2 | N3 | N4 | N5 | N6 | N7 | N8 | N9 | N10 | N11 | | | | | N12 |
| | | | 0.025 | 0.05 | 0.1 | 0.2 | 0.4 | 0.8 | 1.6 | 3.2 | 6.3 | 12.5 | 25 | 50 | SUPERSEDED BY | | | |
| FINISH ▽ IF NOT SHOWN | | | SURFACE FINISH IN μm AS PER IS:696 - 1972 | | | | | | | | | | | | | | | |
| SCALE - 1 : 2.5 | | TITLE | | | | | | | | | | DRG. No. | | | | | | |
|  | | <div>SHAFT FIXING BLOCK</div> <div>(GRINDER WHEEL ASSY.)</div> | | | | | | | | | | <div>M42P001 - 12 - 08 - A4</div> | | | | | | |
| | | | | | | | | | | | | SHEET 1 OF 1 | | | | | | |

NOTE:

1.ALL DIMENSIONS ARE IN mm .U.O.S.
2.REMOVE BURRS & SHARP CORNERS
3.FREE MEASURE TOLERANCE SHOULD BE AS PER
MEDIUM IS:2102 - 1969 U.O.S.

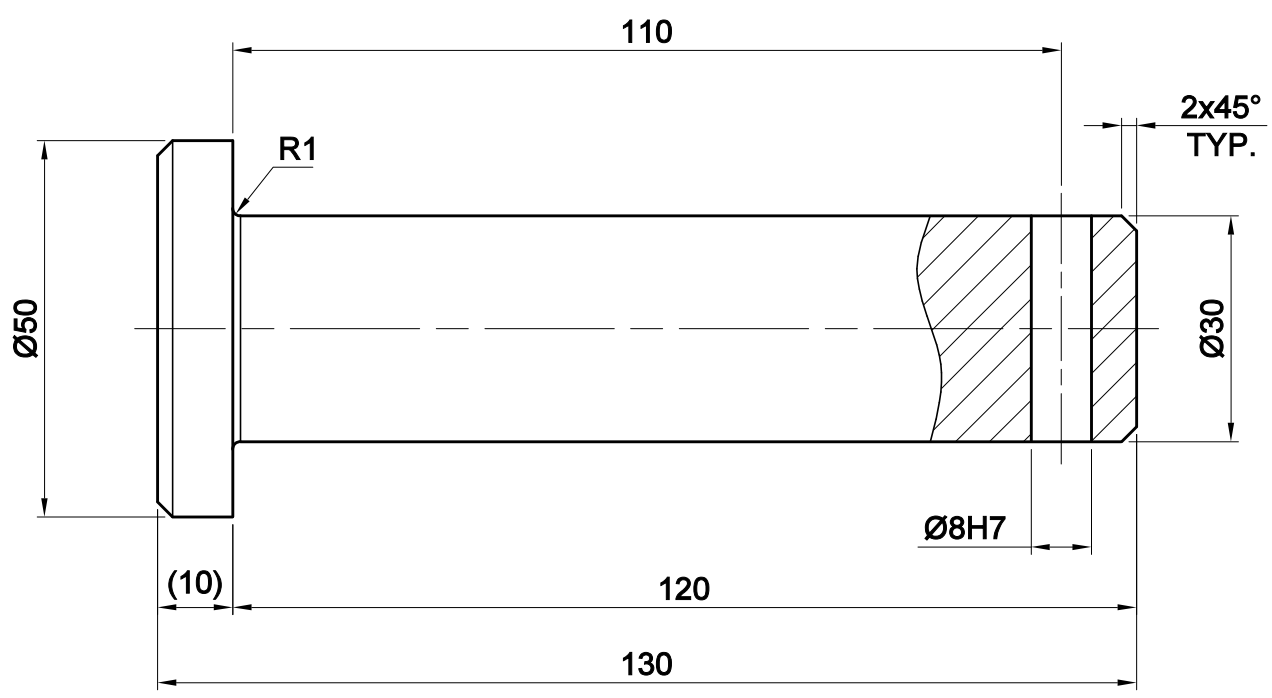
4.FOLLOW RELEVANT INDIAN STANDARDS FOR MANUFACTURE
5.DO NOT SCALE DRAWING.
6.ASK, IF IN DOUBT.




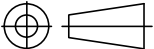
MAT'L.: 40 Ni2 Cr1 Mo28

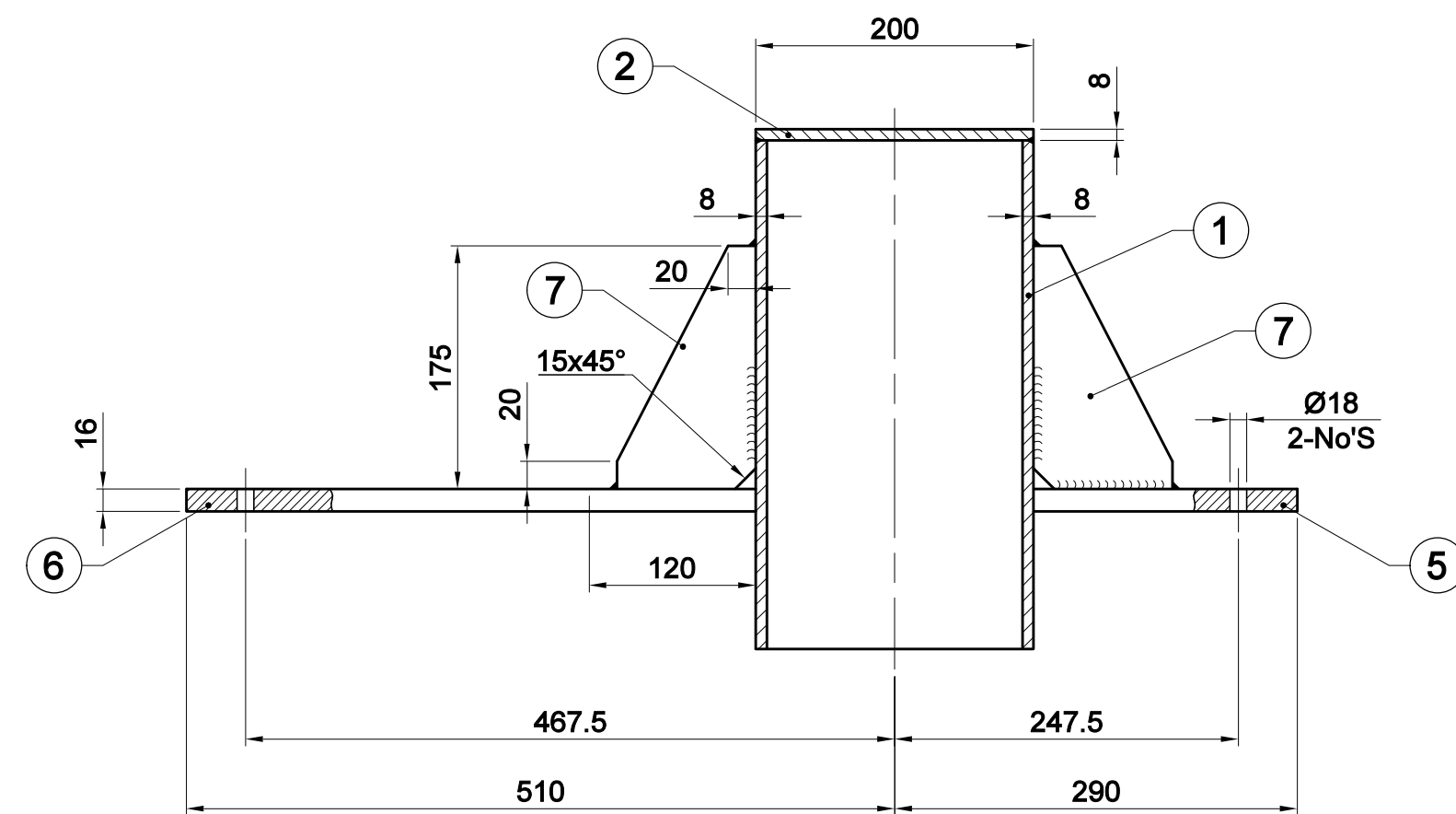
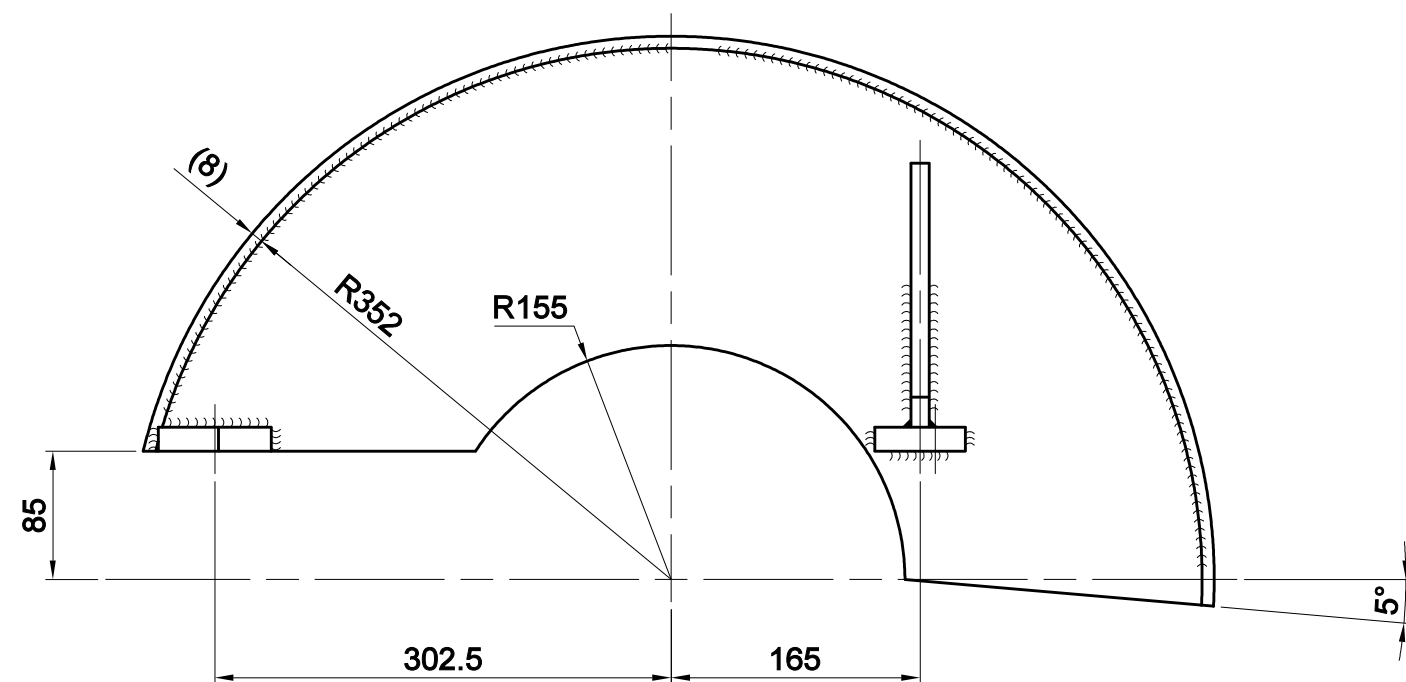
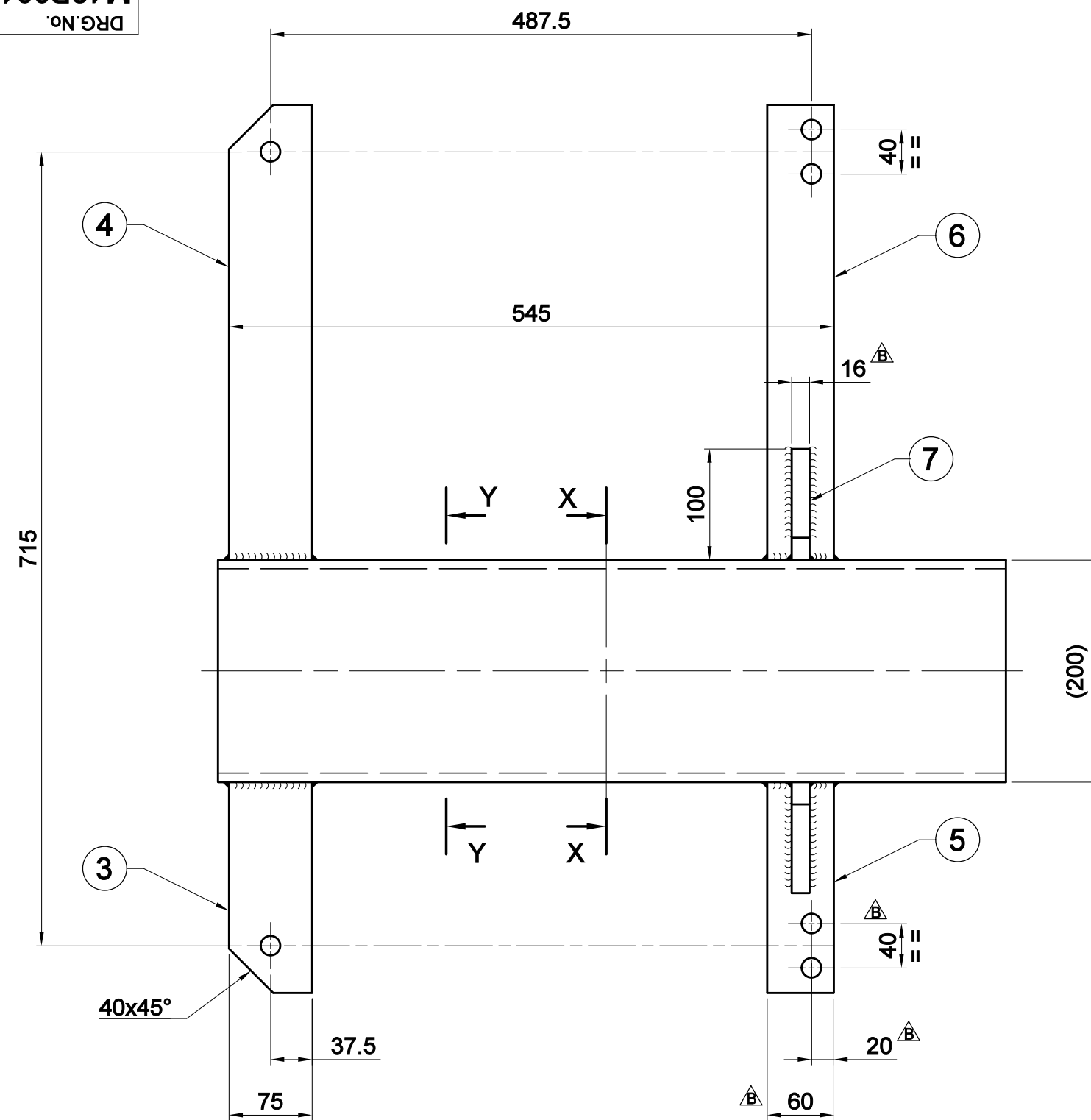
| | | | | | | | |
|---|----------|---|----------------------------|---------|------------|-------|---------|
| SI.No. | DRG. No. | DESCRIPTION | MATERIAL | No. OFF | PER PCE. | TOTAL | REMARKS |
| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | DEPT. : AUTO GRINDING SHOP | | WEIGHT kg. | | |
| W.O.No. : 16 - 1 - 122 | | | | | | | |
| NAME | | DATE | | | | | |
| DESIGNED | | | | | | | |
| DRAWN | | ASP | 06-06-16 | | | | |
| CHECKED | | | | | | | |
| APPROVED | | | | | | | |
| FINISH ▽ IF NOT SHOWN | | SURFACE FINISH IN μm AS PER IS:696 - 1972 | | | | | |
| SCALE - 1 : 1 | | TITLE | | | | | |
| PIN FOR SHAFT FIXING BLOCK (GRINDER WHEEL ASSY.) | | DRG. No. | | | | | |
| | | M42P001 - 12 - 09 - A4 | | | | | |
| | | SHEET 1 | | | | | OF 1 |

NOTE: 1.ALL DIMENSIONS ARE IN mm .U.O.S.
2.REMOVE BURRS & SHARP CORNERS
3.FREE MEASURE TOLERANCE SHOULD BE AS PER MEDIUM IS:2102 - 1969 U.O.S.
4.FOLLOW RELEVANT INDIAN STANDARDS FOR MANUFACTURE
5.DO NOT SCALE DRAWING.
6.ASK, IF IN DOUBT.

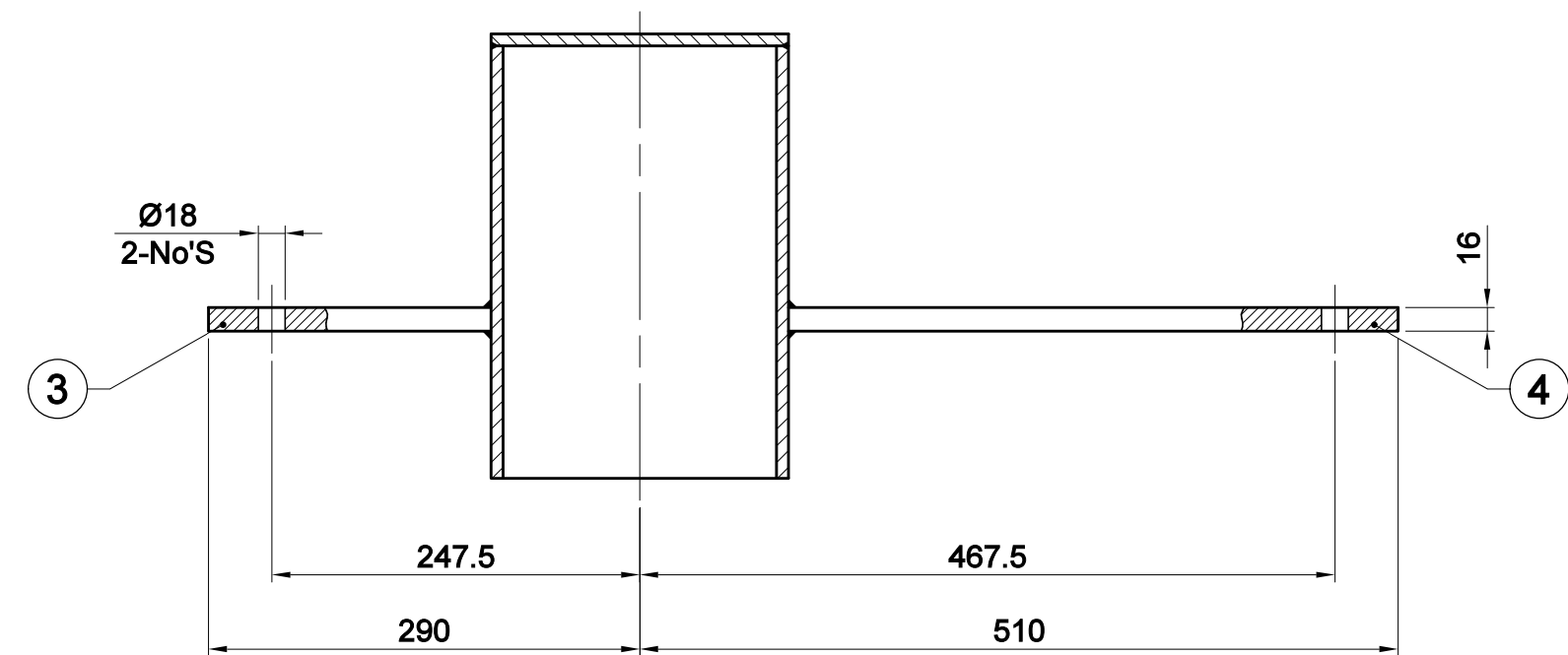


MAT'L.: 40 Ni2 Cr1 Mo28








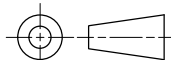
| SI.No. | | DRG. No. | | DESCRIPTION | | | | | | MATERIAL | | No. OFF | | PER PCE. TOTAL WEIGHT kg. | | REMARKS | | | | | |
|---|--|--|--|---|--|-------|------|----------------------------|-----|--|-----|---------|-----|---------------------------|------|------------|----|---------------|-----|----------|--|
| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | | | | | | DEPT. : AUTO GRINDING SHOP | | | | | | TOTAL Wt. kg | | | | | | | |
| W.O.No. : 16 - 1 - 122 | | | |  | | | | | | <div>Mishra Dhatu Nigam Ltd</div> <div>SUPER ALLOYS PLANT</div> <div>HYDERABAD</div> | | | | | | | | | | | |
| | | NAME | | | | | | | | | | | | | | | | | | DATE | |
| DESIGNED | | | | | | | | | | | | | | | | | | | | | |
| DRAWN | | ASP | | | | | | | | | | | | | | | | | | 06-06-16 | |
| CHECKED | | | | | | ▽▽▽ | | ▽▽▽ | | ▽▽ | | ▽ | | ~ | | SUPERSEDES | | | | | |
| APPROVED | | | | | | N1 | N2 | N3 | N4 | N5 | N6 | N7 | N8 | N9 | N10 | | | N11 | N12 | | |
| | | | | | | 0.025 | 0.05 | 0.1 | 0.2 | 0.4 | 0.8 | 1.6 | 3.2 | 6.3 | 12.5 | 25 | 50 | SUPERSEDED BY | | | |
| FINISH ▽ IF NOT SHOWN | | | | SURFACE FINISH IN μm AS PER IS:696 - 1972 | | | | | | | | | | | | | | | | | |
| SCALE - 1 : 1 | | TITLE | | | | | | | | | | | | DRG. No. | | | | | | | |
|  | | <div>PIN</div> <div>(FOR BELT TIGHTNER)</div> | | | | | | | | | | | | M42P001 - 12 - 10 - A4 | | | | | | | |
| | | | | | | | | | | | | | | SHEET 1 OF 1 | | | | | | | |



SECTION - 'XX'



SECTION - 'YY'

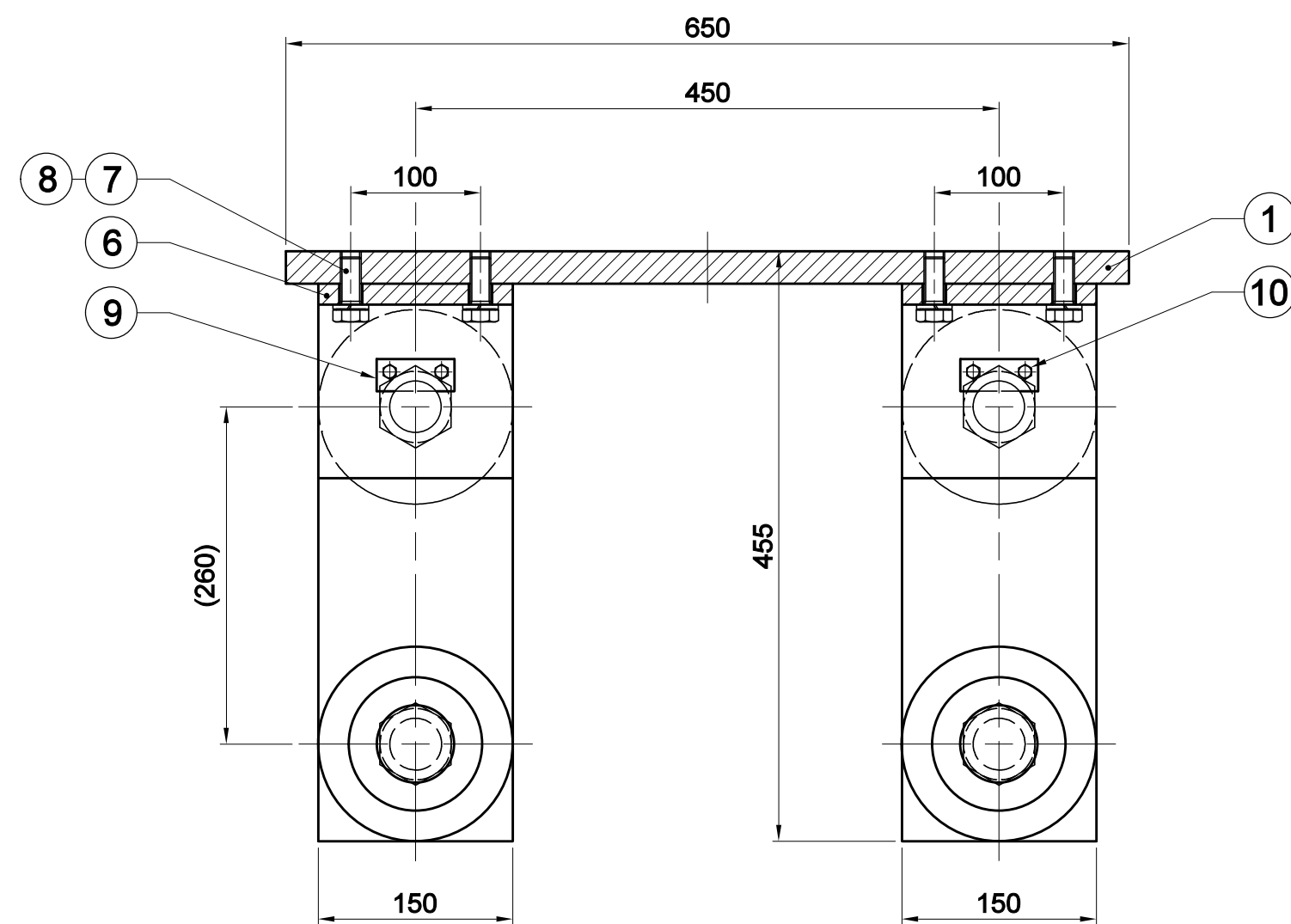
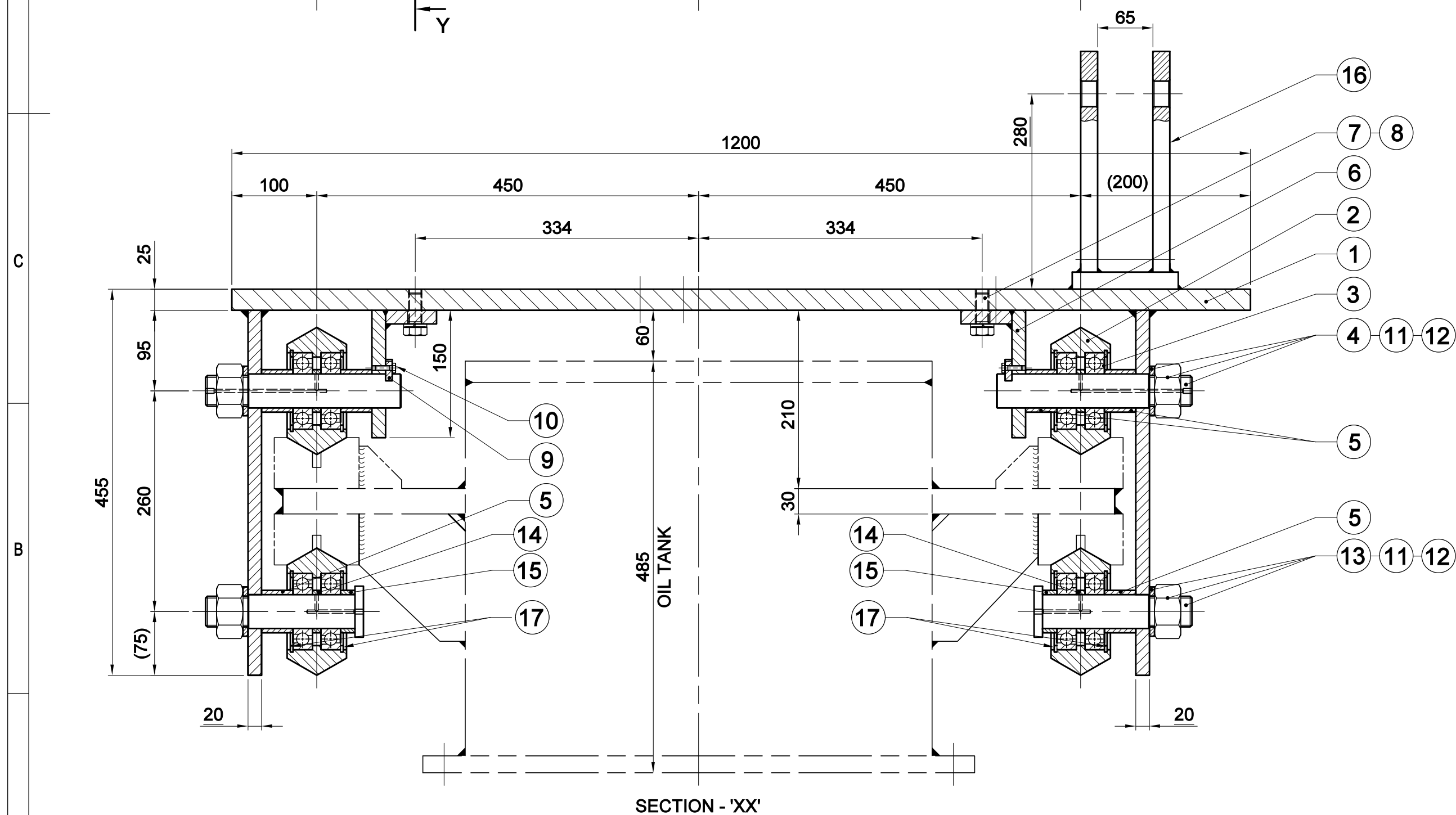
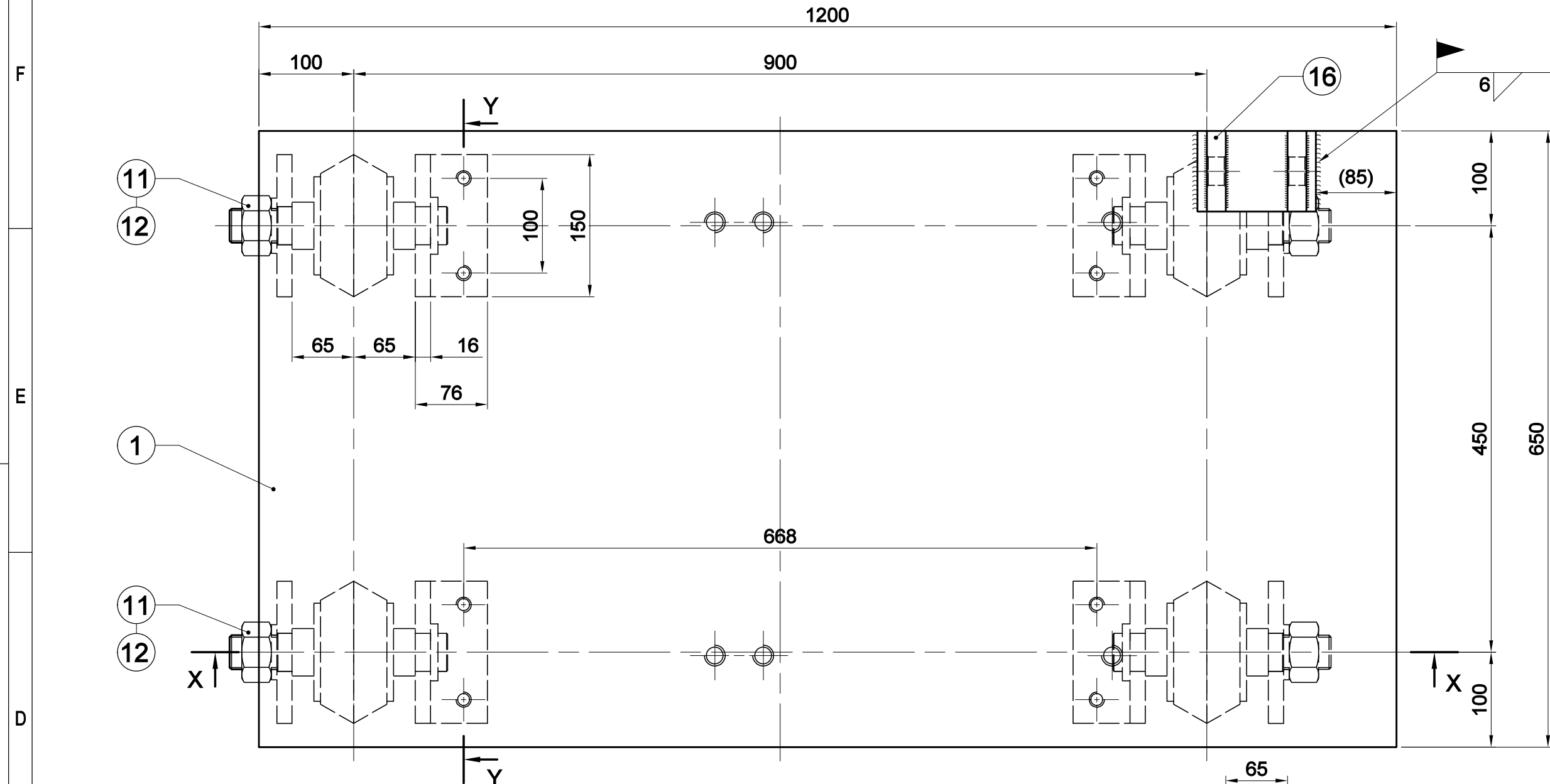
| | | | | | | | | | | | | | | | |
|---|----------|-------------|---|--|---|------------------------------|---|---------|---|-----|---|------|------------|-----|---------------|
|  | 7 | - | St 42S, 16 thk. x 175 x 100 | St 42S, IS : 226-75 | 2 | - | - | - | | | | | | | |
| | 6 | - | SUPPORT PLATE - 4 16 thk. x 50 x 410 | St 42S, IS : 226-75 | 1 | - | - | - | | | | | | | |
| | 5 | - | SUPPORT PLATE - 3 16 thk. x 60 x 190 | St 42S, IS : 226-75 | 1 | - | - | - | | | | | | | |
| | 4 | - | SUPPORT PLATE - 2 16 thk. x 75 x 410 | St 42S, IS : 226-75 | 1 | - | - | - | | | | | | | |
| | 3 | - | SUPPORT PLATE - 1 16 thk. x 75 x 190 | St 42S, IS : 226-75 | 1 | - | - | - | B | | | | | | |
| | 2 | - | TOP PLATE 8 thk. x 200 x 1060 | St 42S, IS : 226-75 | 1 | - | - | - | | | | | | | |
| | 1 | - | SIDE PLATE 8 thk. x 380 x 725 | St 42S, IS : 226-75 | 2 | - | - | - | | | | | | | |
| SI.No. | DRG. No. | DESCRIPTION | | MATERIAL | No. Off | PER PCE. TOTAL WEIGHT kg. | | REMARKS | | | | | | | |
| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | | DEPT. : AUTO GRINDING SHOP | | TOTAL Wt. kg - | | | | | | | | | |
| W.O.No. : 18 - 2 - 032 | | |  | <div>Mishra Dhatu Nigam Ltd</div> <div>SUPER ALLOYS PLANT</div> <div>HYDERABAD</div> | | | | | | | | | | | |
| | NAME | DATE | | | | | | | | | | | | | |
| DESIGNED | | | | | | | | | | | | | | | |
| DRAWN | ASP | 31-05-18 | | | | | | | | | | | | | |
| CHECKED | | | | | | | | | | | | | | | |
| APPROVED | | |  | |  | |  | |  | |  | | SUPERSEDES | | |
| | | | N1 | N2 | N3 | N4 | N5 | N6 | N7 | N8 | N9 | N10 | N11 | N12 | SUPERSEDED BY |
| | | | 0.025 | 0.05 | 0.1 | 0.2 | 0.4 | 0.8 | 1.6 | 3.2 | 6.3 | 12.5 | 25 | 50 | |
| FINISH ▽ IF NOT SHOWN | | | SURFACE FINISH IN um AS PER IS:696 - 1972 | | | | | | | | | | | | |
| SCALE - 1 : 5 | | TITLE | | | DRG. No. | | | | | | | | | | |
|  | | WHEEL GUARD | | | M42P001 - 12 - 11 - B2 | | | | | | | | | | |
| SHEET 1 OF 1 | | | | | | | | | | | | | | | |

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IS TO BE TREATED AS STRICTLY CONFIDENTIAL.

NOTE:

1. ALL DIMENSIONS ARE IN mm .U.O.S.
2. REMOVE BURRS & SHARP CORNERS
3. FREE MEASURE TOLERANCE SHOULD BE AS PER MEDIUM IS:2102 - 1969 U.O.S.
4. FOLLOW RELEVANT INDIAN STANDARDS FOR MANUFACTURE
5. DO NOT SCALE DRAWING.
6. ASK IF IN DOUBT.

| | | | | | |
|----------|----------|---------|--|-----|--------|
| B | 28-09-18 | - | DIM. 60 & 16 WERE 50 & 12, 2 HOLES ADDED | ASP | MAHESH |
| No. | DATE | W.O.No. | REMARKS | BY | APPD |
| REVISION | | | | | |



SECTION - 'YY'

| | | | | | | | | |
|----|------------------------------------|------------------------------------|------------------------|----|---|---|---|--|
| 17 | IS : 3057 - 2 | INTERNAL CIRCLIP 90 x 3 | St 42S, IS : 226-75 | 16 | - | - | - | |
| 16 | M42P001 - 13 - 09 - B4 | BRACKET | St 42S, IS : 226-75 | 1 | - | - | - | |
| 15 | M42P001 - 13 - 08 - B4 S.No - 2 | SPACER Ø50 x 17 | St 42S, IS : 226-75 | 4 | - | - | - | |
| 14 | M42P001 - 13 - 08 - B4 S.No - 1 | SPACER Ø50 x 10 | St 42S, IS : 226-75 | 8 | - | - | - | |
| 13 | M42P001 - 13 - 07 - A4 | ROLLER BOLT Ø60 x 190 | 40 Ni2 Cr1 Mo28 | 4 | - | - | - | |
| 12 | IS : 3063 | SPLIT WASHER 36 | St 42S, IS : 226-75 | 8 | - | - | - | |
| 11 | IS : 1364 - 3 | HEX. HD NUT M36 | St 42S, IS : 226-75 | 8 | - | - | - | |
| 10 | IS : 1364 - 2 | HEX. HD SCREW M6 x 20 | St 42S, IS : 226-75 | 8 | - | - | - | |
| 9 | M42P001 - 13 - 06 - A4 | LOCKING PLATE 60 x 25 x 8 thk. | St 42S, IS : 226-75 | 4 | - | - | - | |
| 8 | IS : 3063 | SPLIT WASHER 16 | St 42S, IS : 226-75 | 8 | - | - | - | |
| 7 | IS : 1364 - 2 | HEX. HD SCREW M16 x 40 | St 42S, IS : 226-75 | 8 | - | - | - | |
| 6 | M42P001 - 13 - 05 - A4 | ROLLER BRACKET | St 42S, IS : 226-75 | 4 | - | - | - | |
| 5 | M42P001 - 43 - 04 - A4 | SPACER Ø50 x 37 | St 42S, IS : 226-75 | 12 | - | - | - | |
| 4 | M42P001 - 13 - 03 - A4 | ROLLER PIN Ø40 x 230 | 40 Ni2 Cr1 Mo28 | 4 | - | - | - | |
| 3 | SKF - 6308 | SEALED DEEP GROOVE BALL BEARING | St 42S, IS : 226-75 | 16 | - | - | - | |
| 2 | M42P001 - 13 - 02 - A4 | ROLLER Ø150 x 70 | St 42S, IS : 226-75 | 8 | - | - | - | |
| 1 | M42P001 - 13 - 01 - C3 | MOTOR TABLE | St 42S, IS : 226-75 | 1 | - | - | - | |

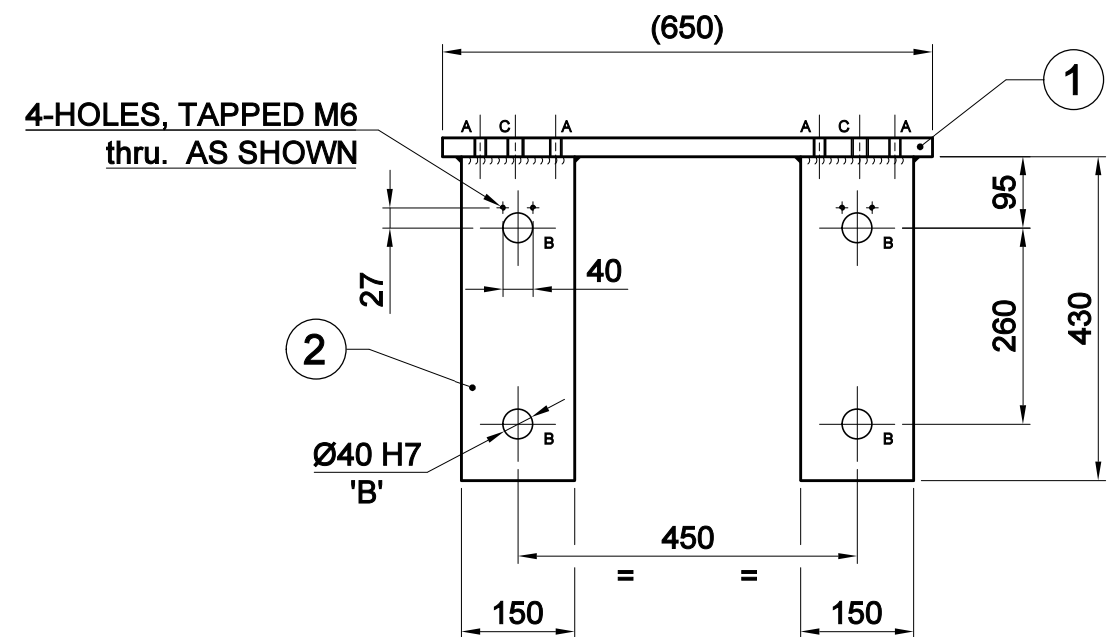
| Sl.No. | DRG. No. | | DESCRIPTION | | | | MATERIAL | | No. OFF | | PER PCE. | TOTAL WEIGHT kg | REMARKS | | |
|---------------------------------------|----------|----------|---|------|-----|-----|--|-----|---------|-----|----------|-----------------|------------|-----|---------------|
| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | | | | | DEPT. : AUTO GRINDING SHOP | | | | | TOTAL Wt. kg | | - | |
| W.O.No. : 16 - 1 - 122 | | | <div>MIDHANI</div> | | | | <div>Mishra Dhatu Nigam Ltd</div> <div>SUPER ALLOYS PLANT</div> <div>HYDERABAD</div> | | | | | | | | |
| | NAME | DATE | | | | | | | | | | | | | |
| DESIGNED | | | | | | | | | | | | | | | |
| DRAWN | ASP | 28/05/16 | | | | | | | | | | | | | |
| CHECKED | | | | | | | | | | | | | | | |
| APPROVED | | | ▽▽▽ | | ▽▽▽ | | ▽▽ | | ▽ | | ~ | | SUPERSEDES | | |
| | | | N1 | N2 | N3 | N4 | N5 | N6 | N7 | N8 | N9 | N10 | N11 | N12 | SUPERSEDED BY |
| | | | 0.025 | 0.05 | 0.1 | 0.2 | 0.4 | 0.8 | 1.6 | 3.2 | 6.3 | 12.5 | 25 | 50 | |
| FINISH ▽ IF NOT SHOWN | | | SURFACE FINISH IN um AS PER IS:696 - 1972 | | | | | | | | | | | | |

| | | |
|---|----------------------------|--|
| SCALE - 1:5 | TITLE | DRG. No. |
|  | <u>MOTOR SLIDING ASSY.</u> | M42P001 - 13 - 00 - C2 SHEET 1 OF 1 |

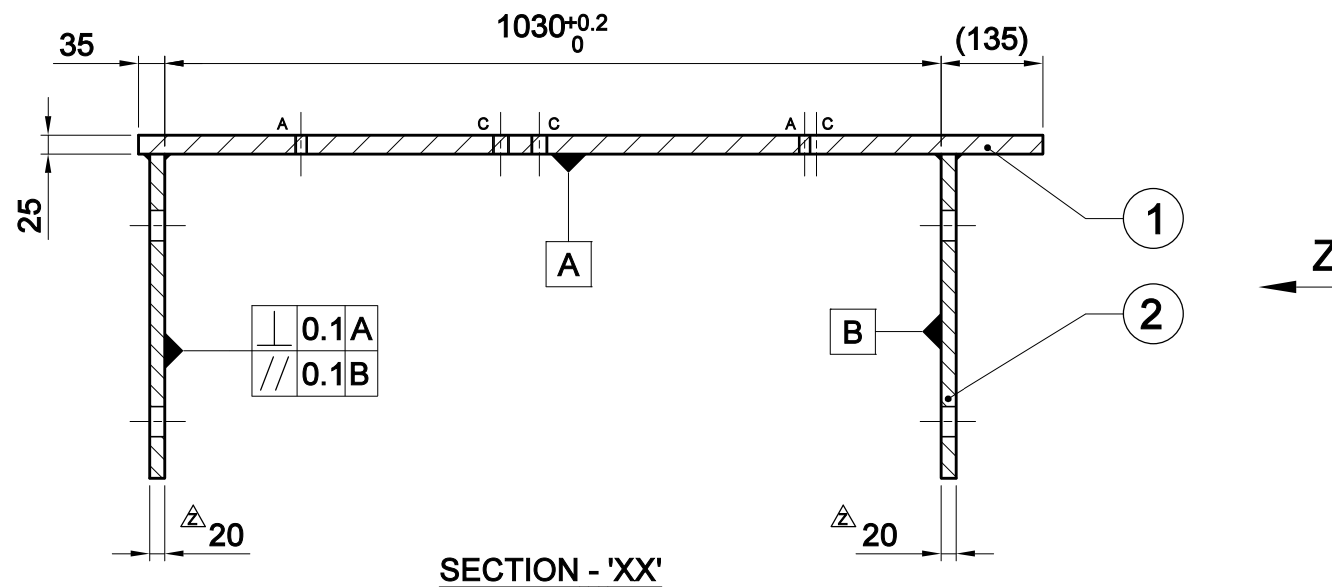
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TO ANY OTHER PERSON WITHOUT THE EXPRESS PERMISSION
OF THE COMPANY IN WRITING. THE MATTER GIVEN ON THIS DRAWING
IS TO BE TREATED AS STRICTLY CONFIDENTIAL.

| |
|--|
| <p>NOTE:</p> <ol style="list-style-type: none">1. ALL DIMENSIONS ARE IN mm .U.O.S.2. REMOVE BURRS & SHARP CORNERS3. FREE MEASURE TOLERANCE SHOULD BE AS PER MEDIUM IS:2102 - 1969 U.O.S.4. FOLLOW RELEVANT INDIAN STANDARDS FOR MANUFACTURE5. DO NOT SCALE DRAWING.6. ASK IF IN DOUBT. |
|--|

| | | | | | | |
|----------|----------|--------------|-------------------------------------|-----|------------|---------------|
| | | | | | | |
| | | | | | | |
| C | 03-10-18 | - | DRG. No REVISED | ASP | MAHESH | |
| B | 23-05-18 | 18 - 2 - 032 | DRG. No REVISED, S.No 16 & 17 ADDED | ASP | SASIDHARAN | |
| No. | DATE | W.O.No. | REMARKS | BY | APPD | |
| REVISION | | | | | | REF. DRG. No. |



VIEW - 'Z'



SECTION - 'XX'


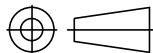
NOTE:
ALL WELDS ARE IN 8 mm SIZE.

| | | | | | |
|----------|----------|--------------|------------------------------|-----|---------------|
| | | | | | |
| | | | | | |
| C | 28-09-18 | - | DIM. 20 WAS 16 | ASP | SASIDHARAN |
| B | 23-05-18 | 18 - 2 - 032 | MOTOR FIXING HOLES (C) ADDED | ASP | SASIDHARAN |
| No. | DATE | W.O.No. | REMARKS | BY | APPD |
| REVISION | | | | | REF. DRG. No. |

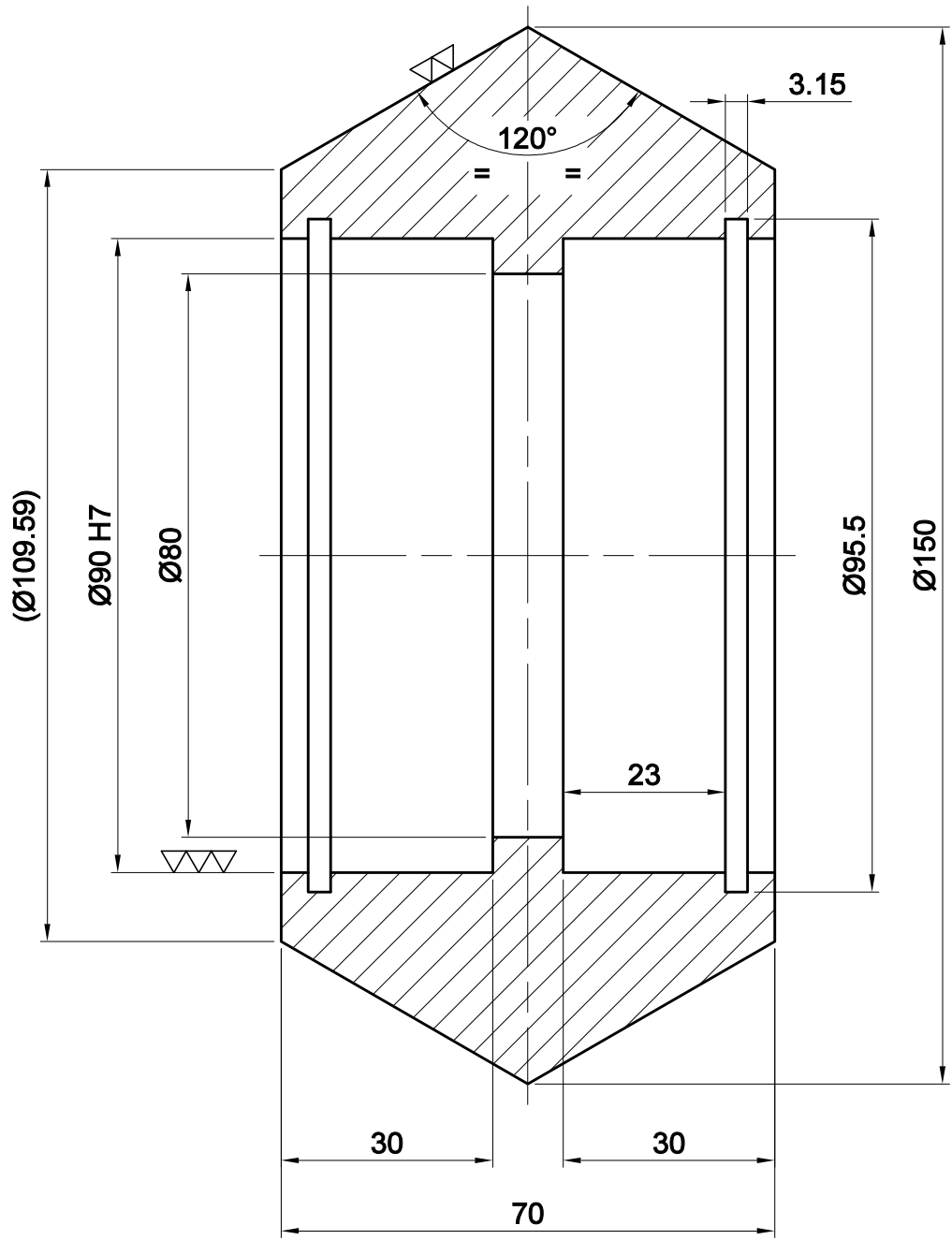
NOTE:

- 1. ALL DIMENSIONS ARE IN mm .U.O.S.**
- 2. REMOVE BURRS & SHARP CORNERS**
- 3. FREE MEASURE TOLERANCE SHOULD BE AS PER MEDIUM IS:2102 - 1969 U.O.S.**
- 4. FOLLOW RELEVANT INDIAN STANDARDS FOR MANUFACTURE**
- 5. DO NOT SCALE DRAWING.**
- 6. ASK, IF IN DOUBT.**

MAT'L: St 42S, IS : 226 - 75


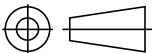
| | | | | | | | | | | | | | | | |
|---|----------|---|--|---|--------------|---------------------|---------|----------|----|----|----|-----|------------|------------------------|----------|
| 2 | - | SIDE PLATE 430 x 150 x 20 | St 42S, IS : 226-75 | 4 | - | - | - | | | | | | | | |
| 1 | - | TOP PLATE 1200 x 650 x 25 | St 42S, IS : 226-75 | 1 | - | - | - | | | | | | | | |
| Sl.No. | DRG. No. | DESCRIPTION | MATERIAL | No. OFF | PER PCE. | TOTAL WEIGHT kg. | REMARKS | | | | | | | | |
| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | DEPT. : AUTO GRINDING SHOP | | TOTAL Wt. kg | | | | | | | | | | |
| W.O.No. : 18 - 2 - 032 | |  | <div>Mishra Dhatu Nigam Ltd</div> <div>SUPER ALLOYS PLANT</div> <div>HYDERABAD</div> | | | | | | | | | | | | |
| | NAME | | | | | | | DATE | | | | | | | |
| DESIGNED | | | | | | | | | | | | | | | |
| DRAWN | ASP | | | | | | | 23/05/18 | | | | | | | |
| CHECKED | | | ▽▽▽▽ | | ▽▽▽ | | ▽▽ | | ▽ | | ~ | | SUPERSEDES | | |
| APPROVED | | | N1 | N2 | N3 | N4 | N5 | N6 | N7 | N8 | N9 | N10 | | N11 | N12 |
| FINISH ▽ IF NOT SHOWN | | | SURFACE FINISH IN um AS PER IS:696 - 1972 | | | | | | | | | | | SUPERSEDED BY | |
| SCALE - 1 : 10 | | TITLE | | <div>MOTOR TABLE</div> <div>(FOR MOTOR SLIDING)</div> | | | | | | | | | | | DRG. No. |
|  | | | | | | | | | | | | | | M42P001 - 13 - 01 - C3 | |
| | | | | | | | | | | | | | | SHEET 1 OF 1 | |

NOTE: 1.ALL DIMENSIONS ARE IN mm .U.O.S.
2.REMOVE BURRS & SHARP CORNERS
3.FREE MEASURE TOLERANCE SHOULD BE AS PER MEDIUM IS:2102 - 1969 U.O.S.
4.FOLLOW RELEVANT INDIAN STANDARDS FOR MANUFACTURE
5.DO NOT SCALE DRAWING.
6.ASK, IF IN DOUBT.



▽ (▽▽,▽▽▽)

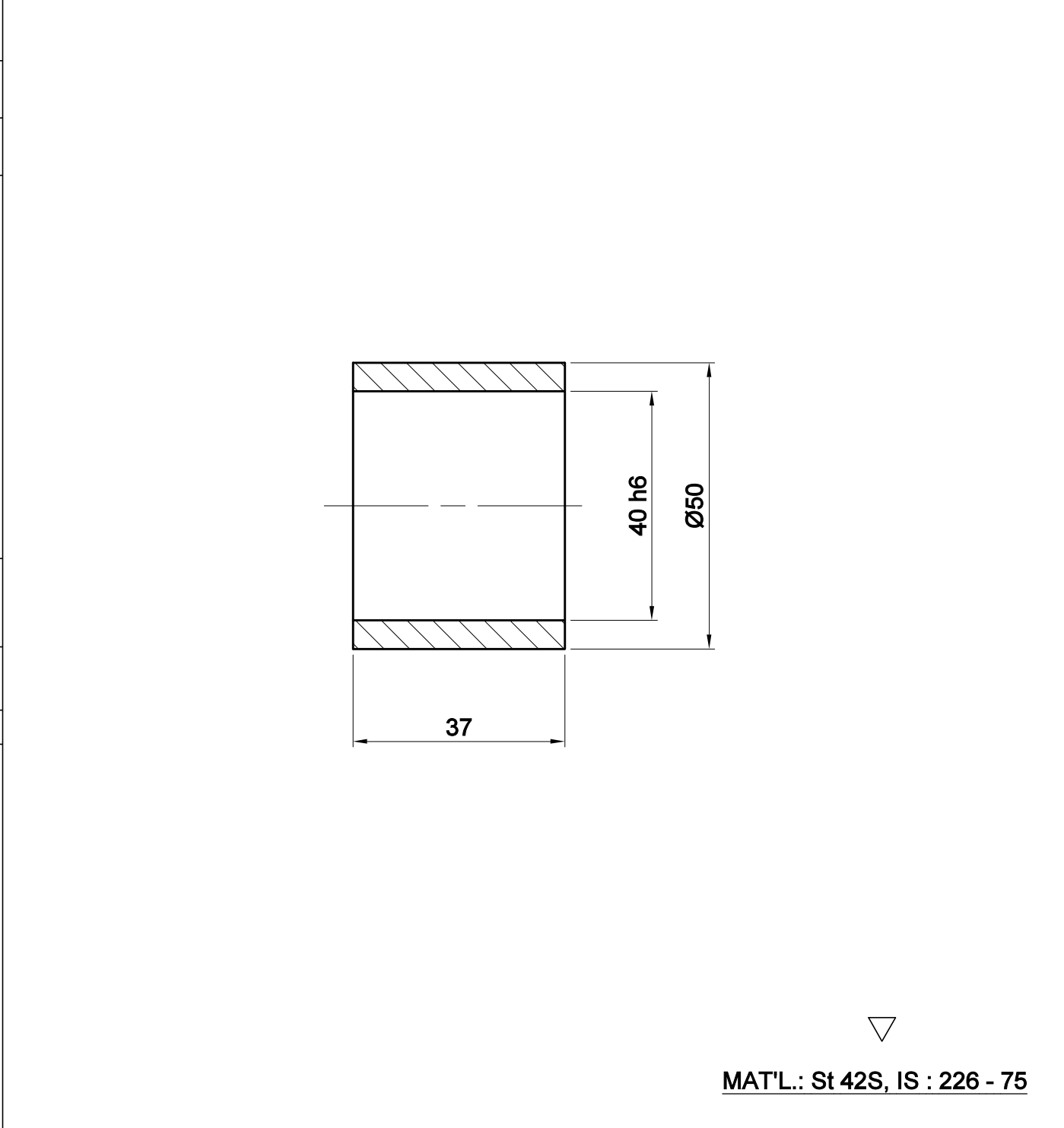
MAT'L.: St 42S, IS : 226 - 75

| SI.No. | | DRG. No. | | DESCRIPTION | | | | | | MATERIAL | | No. OFF | | PER PCE. | | TOTAL | | REMARKS | | | | | |
|---|--|---|--|---|--|-------|------|-----|-----|--|-----|---------|-----|------------|------|------------------------|----|---------------|--|------|--|----------|-----|
| | | | | | | | | | | | | | | WEIGHT kg. | | | | | | | | | |
| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | | | | | | | | DEPT. : AUTO GRINDING SHOP | | | | | | TOTAL Wt. kg | | | | | | | |
| W.O.No. : 16 - 1 - 122 | | | |  | | | | | | <div>Mishra Dhatu Nigam Ltd</div> <div>SUPER ALLOYS PLANT</div> <div>HYDERABAD</div> | | | | | | | | | | | | | |
| | | NAME | | | | | | | | | | | | | | | | | | | | DATE | |
| DESIGNED | | | | | | | | | | | | | | | | | | | | | | | |
| DRAWN | | ASP | | | | | | | | | | | | | | | | | | | | 21/01/17 | |
| CHECKED | | | | | | ▽▽▽ | | ▽▽ | | ▽▽ | | ▽ | | ~ | | SUPERSEDES | | | | | | | |
| APPROVED | | | | | | N1 | N2 | N3 | N4 | N5 | N6 | N7 | N8 | N9 | N10 | | | | | | | N11 | N12 |
| | | | | | | 0.025 | 0.05 | 0.1 | 0.2 | 0.4 | 0.8 | 1.6 | 3.2 | 6.3 | 12.5 | 25 | 50 | SUPERSEDED BY | | | | | |
| FINISH ▽ IF NOT SHOWN | | | | SURFACE FINISH IN μm AS PER IS:696 - 1972 | | | | | | | | | | | | | | | | | | | |
| SCALE - 1 : 1 | | TITLE | | | | | | | | | | | | | | DRG. No. | | | | | | | |
|  | | <div>ROLLER</div> <div>(FOR MOTOR SLIDING UNIT)</div> | | | | | | | | | | | | | | M42P001 - 13 - 02 - A4 | | | | | | | |
| | | | | | | | | | | | | | | | | SHEET 1 | | | | OF 1 | | | |

NOTE:


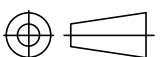
1.ALL DIMENSIONS ARE IN mm .U.O.S.
2.REMOVE BURRS & SHARP CORNERS
3.FREE MEASURE TOLERANCE SHOULD BE AS PER
MEDIUM IS:2102 - 1969 U.O.S.

4.FOLLOW RELEVANT INDIAN STANDARDS FOR MANUFACTURE
5.DO NOT SCALE DRAWING.
6.ASK, IF IN DOUBT.

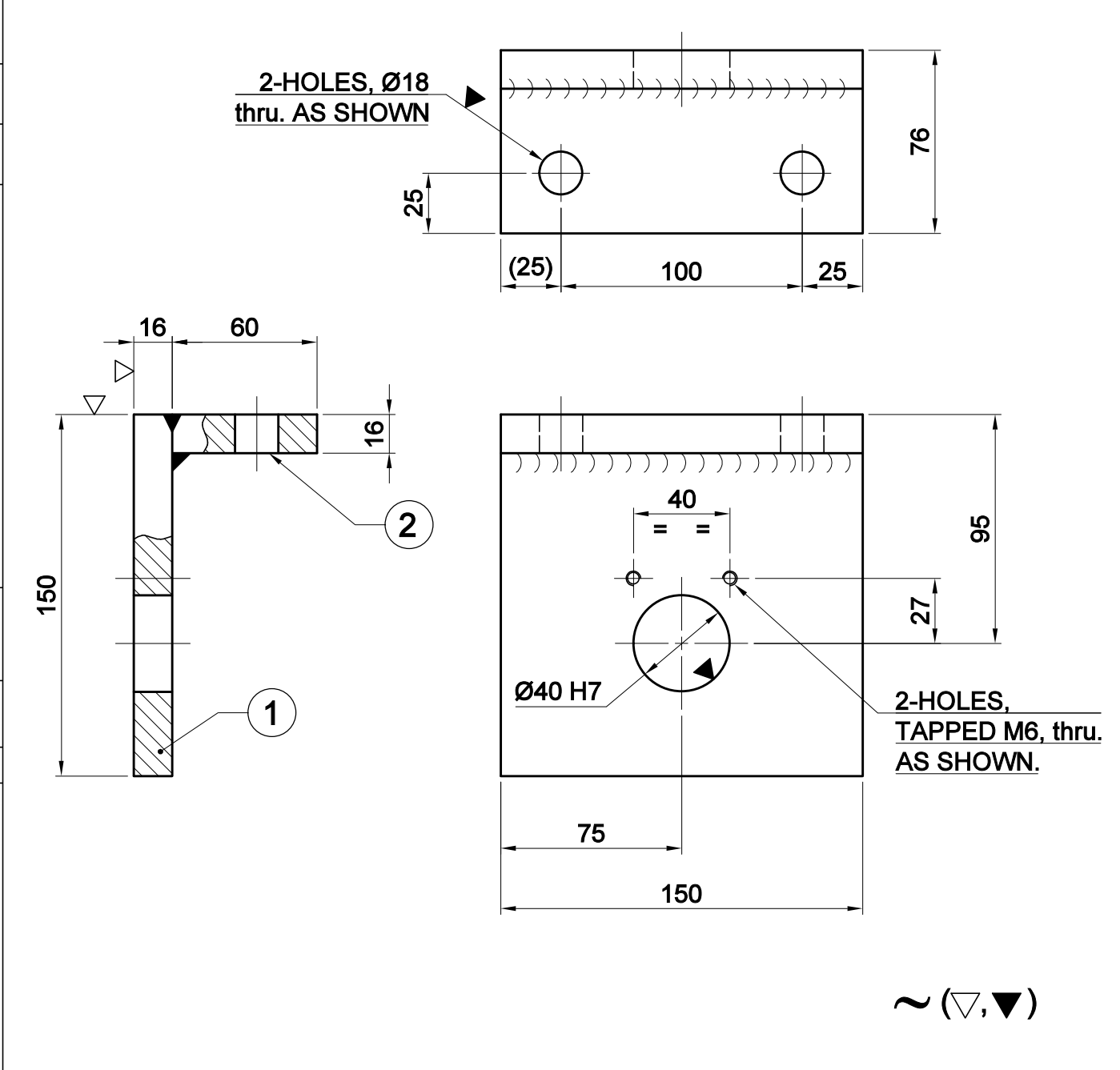


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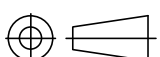
MAT'L.: St 42S, IS : 226 - 75

| | | | | | | | | |
|---|----------|---|----------------------------|--|------------|-------|---------|---------------|
| Sl.No. | DRG. No. | DESCRIPTION | MATERIAL | No. OFF | PER PCE. | TOTAL | REMARKS | |
| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | DEPT. : AUTO GRINDING SHOP | | WEIGHT kg. | | | |
| W.O.No. : 16 - 1 - 122 | | | TOTAL Wt. kg | | | | | |
| DESIGNED | | NAME | DATE | <div><div><div>MIDHANI</div></div><div><div>Mishra Dhatu Nigam Ltd</div><div>SUPER ALLOYS PLANT</div><div>HYDERABAD</div></div></div> | | | | |
| DRAWN | | ASP | 21/01/17 | | | | | |
| CHECKED | | | | | | | | |
| APPROVED | | | | | | | | |
| FINISH ▽ IF NOT SHOWN | | SURFACE FINISH IN μm AS PER IS:696 - 1972 | | | | | | SUPERSEDES |
| SCALE - 1 : 1 | | TITLE | | | | | | SUPERSEDED BY |
|  | | SPACER - Ø50 x 37 (FOR MOTOR SLIDING UNIT) | | | | | | |
| | | DRG. No. | | | | | | |
| | | M42P001 - 13 - 04 - A4 | | | | | | |
| | | SHEET 1 | | | | | | OF 1 |

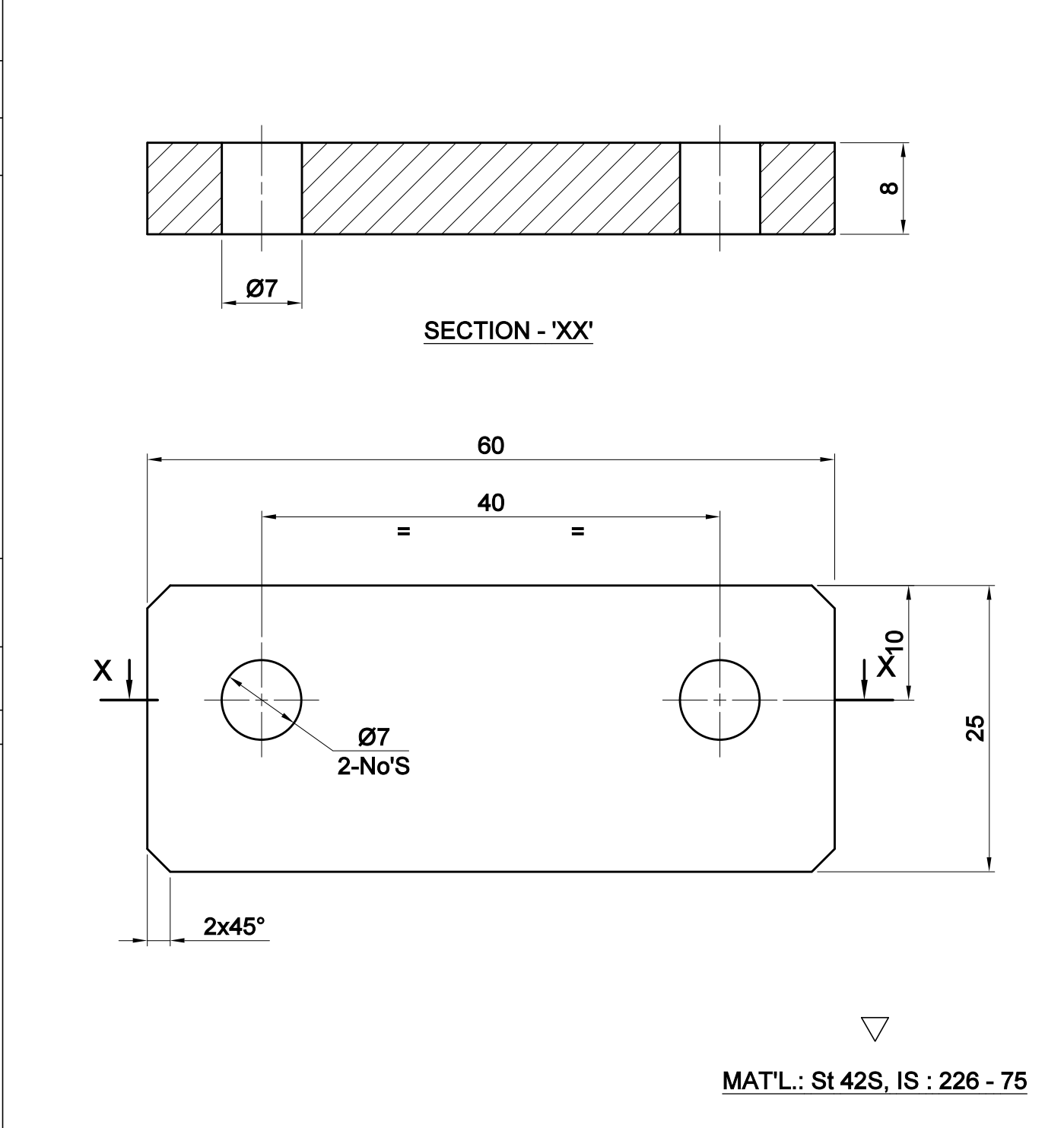
NOTE: 1.ALL DIMENSIONS ARE IN mm .U.O.S.
2.REMOVE BURRS & SHARP CORNERS
3.FREE MEASURE TOLERANCE SHOULD BE AS PER MEDIUM IS:2102 - 1969 U.O.S.
4.FOLLOW RELEVANT INDIAN STANDARDS FOR MANUFACTURE
5.DO NOT SCALE DRAWING.
6.ASK, IF IN DOUBT.




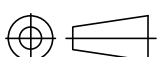
~ (▽, ▼)

| | | | | | | | | | | | | | | |
|---|----------|---|--|---------|------------|--------------|---------|----------|-----|-----|------|------------|------------------------|---------------|
| 2 | - | PLATE - 2 150 x 60 x 16 | St 42S, IS : 226-75 | 1 | - | - | - | | | | | | | |
| 1 | - | PLATE - 1 150 x 150 x 16 | St 42S, IS : 226-75 | 1 | - | - | - | | | | | | | |
| SI.No. | DRG. No. | DESCRIPTION | MATERIAL | No. OFF | PER PCE. | TOTAL | REMARKS | | | | | | | |
| | | | | | WEIGHT kg. | | | | | | | | | |
| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | DEPT. : AUTO GRINDING SHOP | | | TOTAL Wt. kg | | | | | | | | |
| W.O.No. : 16 - 1 - 122 | |  |  Mishra Dhatu Nigam Ltd SUPER ALLOYS PLANT HYDERABAD | | | | | | | | | | | |
| | NAME | | | | | | | DATE | | | | | | |
| DESIGNED | | | | | | | | | | | | | | |
| DRAWN | ASP | | | | | | | 28-05-16 | | | | | | |
| CHECKED | | | | | | | | | | | | | | |
| | | ▽▽▽▽ | | ▽▽▽ | | ▽▽ | | ▽ | | ~ | | SUPERSEDES | | |
| | | N1 | N2 | N3 | N4 | N5 | N6 | N7 | N8 | N9 | N10 | N11 | N12 | SUPERSEDED BY |
| APPROVED | | 0.025 | 0.05 | 0.1 | 0.2 | 0.4 | 0.8 | 1.6 | 3.2 | 6.3 | 12.5 | 25 | 50 | |
| FINISH ▽ IF NOT SHOWN | | SURFACE FINISH IN μm AS PER IS:696 - 1972 | | | | | | | | | | | | |
| SCALE - 1 : 2.5 | | TITLE | | | | | | | | | | | DRG. No. | |
|  | | <u>ROLLER BRACKET</u> (FOR MOTOR SLIDING UNIT) | | | | | | | | | | | M42P001 - 13 - 05 - A4 | |
| | | | | | | | | | | | | | SHEET 1 OF 1 | |

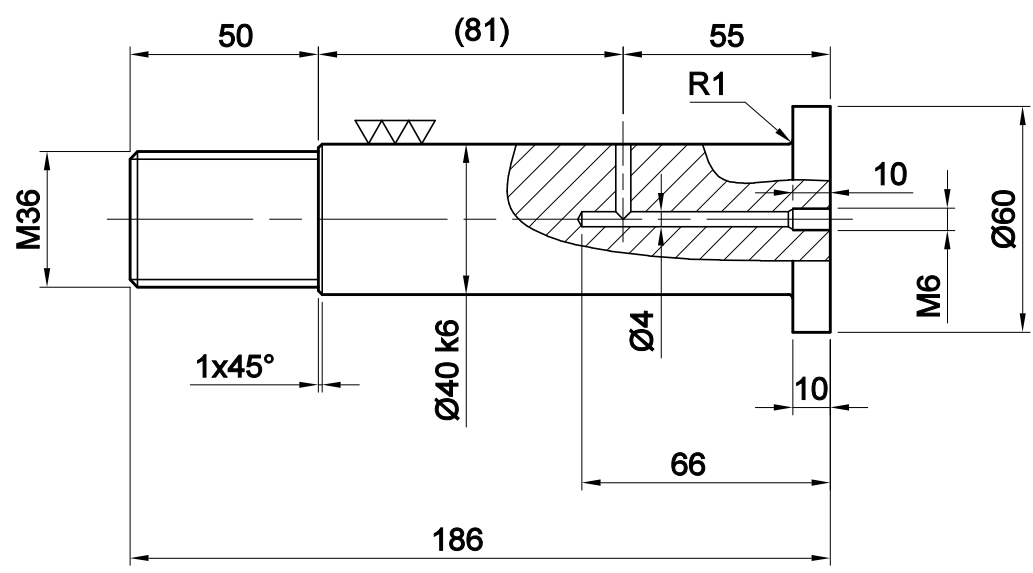
NOTE: 1.ALL DIMENSIONS ARE IN mm .U.O.S.
2.REMOVE BURRS & SHARP CORNERS
3.FREE MEASURE TOLERANCE SHOULD BE AS PER MEDIUM IS:2102 - 1969 U.O.S.
4.FOLLOW RELEVANT INDIAN STANDARDS FOR MANUFACTURE
5.DO NOT SCALE DRAWING.
6.ASK, IF IN DOUBT.



MAT'L.: St 42S, IS : 226 - 75

| Sl.No. | DRG. No. | DESCRIPTION | | | | | | MATERIAL | No. OFF | PER PCE. | | TOTAL WEIGHT kg. | REMARKS | | |
|---|----------|--|--|------|-----|-----|-----|----------------------------|--|----------|--------------|------------------|------------------------|-----|---------------|
| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | | | | | | DEPT. : AUTO GRINDING SHOP | | | TOTAL Wt. kg | | | | |
| W.O.No. : 16 - 1 - 122 | | | <div></div> | | | | | | <div>Mishra Dhatu Nigam Ltd</div> <div>SUPER ALLOYS PLANT</div> <div>HYDERABAD</div> | | | | | | |
| | NAME | DATE | | | | | | | | | | | | | |
| DESIGNED | | | | | | | | | | | | | | | |
| DRAWN | ASP | 27-05-16 | | | | | | | | | | | | | |
| CHECKED | | | ▽▽▽ | | ▽▽ | | ▽▽ | | ▽ | | ~ | | SUPERSEDES | | |
| APPROVED | | | N1 | N2 | N3 | N4 | N5 | N6 | N7 | N8 | N9 | N10 | | N11 | N12 |
| | | | 0.025 | 0.05 | 0.1 | 0.2 | 0.4 | 0.8 | 1.6 | 3.2 | 6.3 | 12.5 | 25 | 50 | SUPERSEDED BY |
| FINISH ▽ IF NOT SHOWN | | | SURFACE FINISH IN μm AS PER IS:696 - 1972 | | | | | | | | | | | | |
| SCALE - 2 : 1 | | TITLE | | | | | | | | | | | DRG. No. | | |
|  | | <div>LOCKING PLATE</div> <div>(FOR MOTOR SLIDING UNIT)</div> | | | | | | | | | | | M42P001 - 13 - 06 - A4 | | |
| | | | | | | | | | | | | | SHEET 1 | | |
| | | | | | | | | | | | | | OF 1 | | |

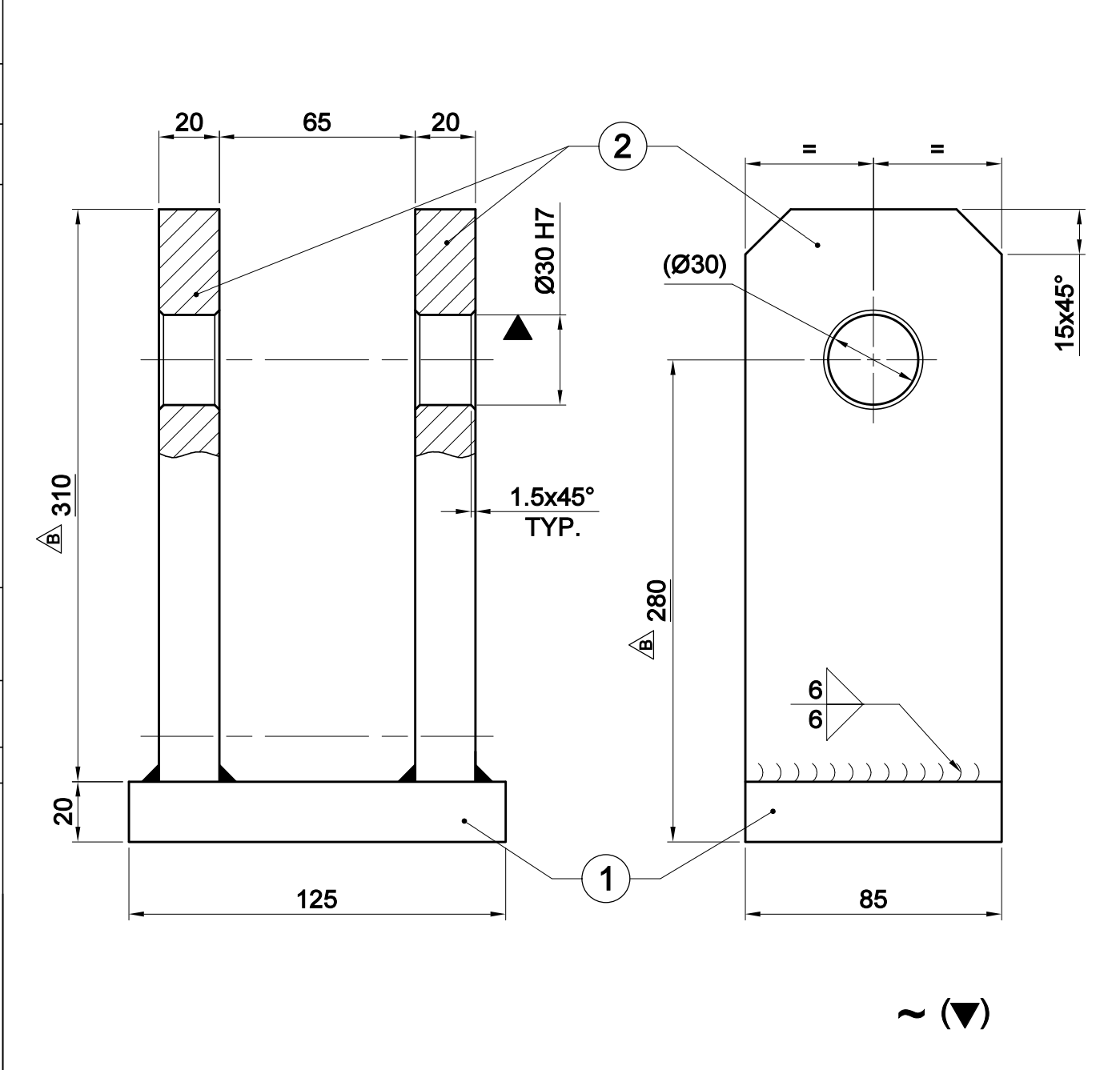
NOTE: 1.ALL DIMENSIONS ARE IN mm .U.O.S.
2.REMOVE BURRS & SHARP CORNERS
3.FREE MEASURE TOLERANCE SHOULD BE AS PER MEDIUM IS:2102 - 1969 U.O.S.
4.FOLLOW RELEVANT INDIAN STANDARDS FOR MANUFACTURE
5.DO NOT SCALE DRAWING.
6.ASK, IF IN DOUBT.


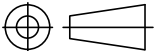


MAT'L.: 40Ni2 Cr1 Mo28

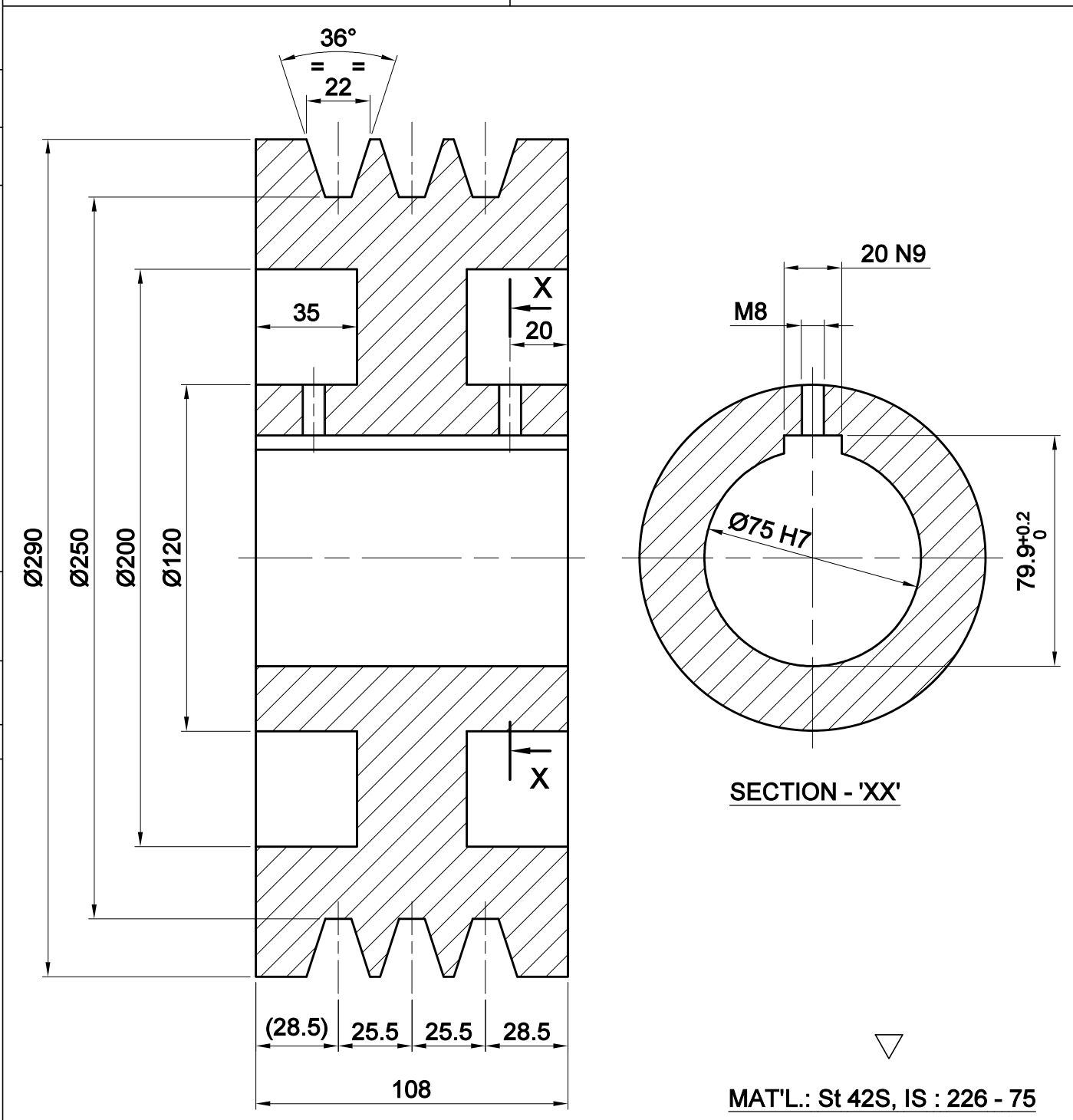
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|---------------------------------------|----------|-------------|--|---------|------------|-------|---------|---|
| SI.No. | DRG. No. | DESCRIPTION | MATERIAL | No. OFF | PER PCE. | TOTAL | REMARKS | |
| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | DEPT. : AUTO GRINDING SHOP | | WEIGHT kg. | | | |
| W.O.No. : 16 - 1 - 122 | | | TOTAL Wt. kg | | | | | |
| DESIGNED | NAME | DATE | Mishra Dhatu Nigam Ltd SUPER ALLOYS PLANT HYDERABAD | | | | | |
| DRAWN | ASP | 21/01/17 | | | | | | |
| CHECKED | | | | | | | | |
| APPROVED | | | | | | | | |
| FINISH ▽ IF NOT SHOWN | | | SURFACE FINISH IN µm AS PER IS:696 - 1972 | | | | | SUPERSEDES |
| SCALE - 1 : 2 | | | TITLE ROLLER BOLT - Ø60 x 190 (FOR MOTOR SLIDING UNIT) | | | | | DRG. No. M42P001 - 13 - 07 - A4 |
| SHEET 1 | | | OF 1 | | | | | |

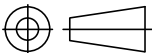
NOTE: 1.ALL DIMENSIONS ARE IN mm .U.O.S.
2.REMOVE BURRS & SHARP CORNERS
3.FREE MEASURE TOLERANCE SHOULD BE AS PER MEDIUM IS:2102 - 1969 U.O.S.
4.FOLLOW RELEVANT INDIAN STANDARDS FOR MANUFACTURE
5.DO NOT SCALE DRAWING.
6.ASK, IF IN DOUBT.

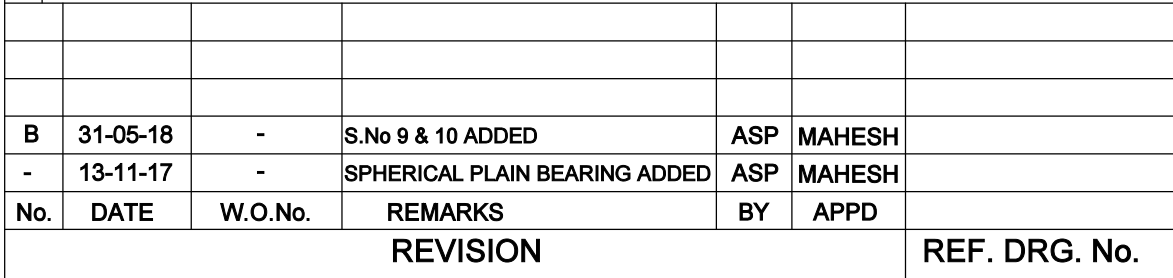


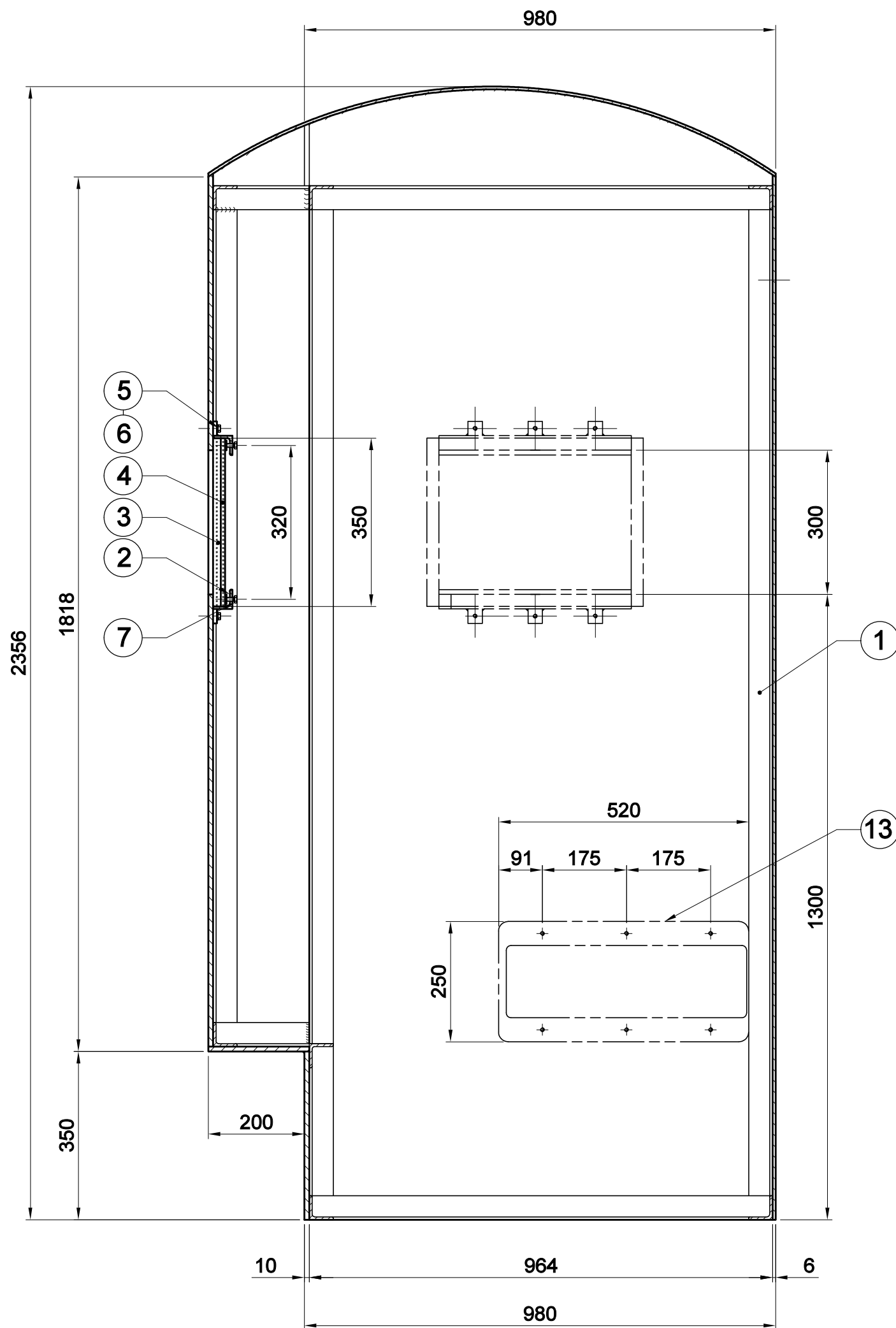
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|---|----------|--|--|---------|------------|--------------|---------|----------|-----|-----|------|------------|---------------|-----|
| 2 | | PLATE - 1 310 x 85 x 20 | St 42S, IS : 226-75 | 2 | - | - | - | | | | | | | |
| 1 | - | PLATE - 1 125 x 85 x 20 | St 42S, IS : 226-75 | 1 | - | - | - | | | | | | | |
| SI.No. | DRG. No. | DESCRIPTION | MATERIAL | No. OFF | PER PCE. | TOTAL | REMARKS | | | | | | | |
| | | | | | WEIGHT kg. | | | | | | | | | |
| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | DEPT. : AUTO GRINDING SHOP | | | TOTAL Wt. kg | | | | | | | | |
| W.O.No. : 18 - 2 - 32 | |  | <div>Mishra Dhatu Nigam Ltd</div> <div>SUPER ALLOYS PLANT</div> <div>HYDERABAD</div> | | | | | | | | | | | |
| | NAME | | | | | | | DATE | | | | | | |
| DESIGNED | | | | | | | | | | | | | | |
| DRAWN | ASP | | | | | | | 22-05-18 | | | | | | |
| CHECKED | | | | | | | | | | | | | | |
| | | ▽▽▽▽ | | ▽▽▽ | | ▽▽ | | ▽ | | ~ | | SUPERSEDES | | |
| | | N1 | N2 | N3 | N4 | N5 | N6 | N7 | N8 | N9 | N10 | | N11 | N12 |
| APPROVED | | 0.025 | 0.05 | 0.1 | 0.2 | 0.4 | 0.8 | 1.6 | 3.2 | 6.3 | 12.5 | | 25 | 50 |
| FINISH ▽ IF NOT SHOWN | | SURFACE FINISH IN μm AS PER IS:696 - 1972 | | | | | | | | | | | SUPERSEDED BY | |
| SCALE - 1 : 2 | | TITLE | | | | | | | | | | | | |
|  | | <div>BRACKET</div> <div>(FOR MOTOR SLIDING UNIT)</div> | | | | | | | | | | | | |
| | | <div>DRG. No.</div> <div>M42P001 - 13 - 09 - B4</div> <div>SHEET 1</div> <div>OF 1</div> | | | | | | | | | | | | |

NOTE: 1.ALL DIMENSIONS ARE IN mm .U.O.S.
2.REMOVE BURRS & SHARP CORNERS
3.FREE MEASURE TOLERANCE SHOULD BE AS PER MEDIUM IS:2102 - 1969 U.O.S.
4.FOLLOW RELEVANT INDIAN STANDARDS FOR MANUFACTURE
5.DO NOT SCALE DRAWING.
6.ASK, IF IN DOUBT.

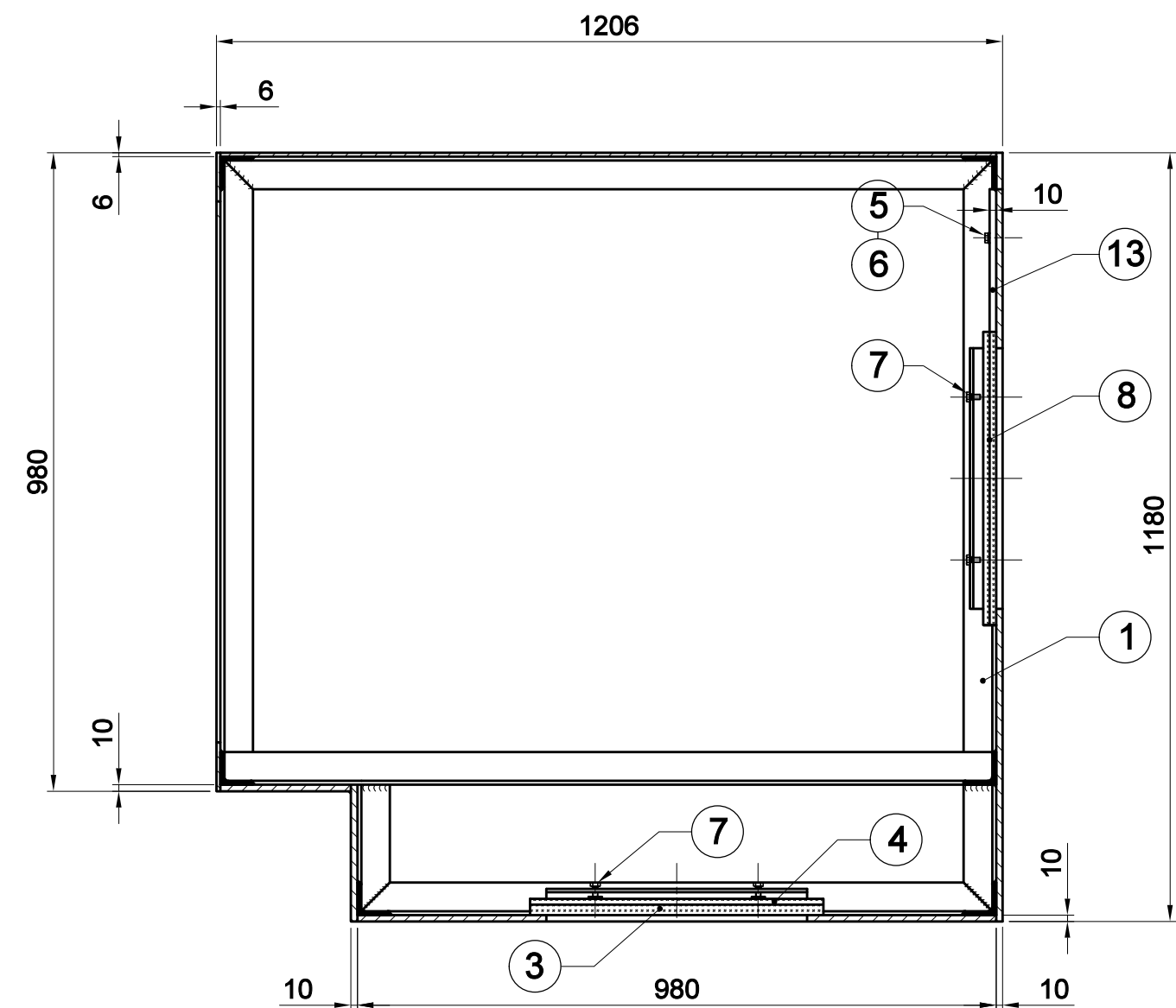



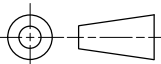
| SI.No. | | DRG. No. | | DESCRIPTION | | | | | | MATERIAL | | | No. OFF | | PER PCE. TOTAL WEIGHT kg. | | REMARKS | | | | |
|---|--|---|--|---|------|-----|-----|-----|-----|--|-----|-----|---------|-----|---------------------------|------------------------|------------|--|--|----------|--|
| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | | | | | | | | DEPT. : AUTO GRINDING SHOP | | | | | TOTAL Wt. kg | | | | | | |
| W.O.No. : 16 - 1 - 122 | | | | <div>MIDHANI</div> | | | | | | <div>Mishra Dhatu Nigam Ltd</div> <div>SUPER ALLOYS PLANT</div> <div>HYDERABAD</div> | | | | | | | | | | | |
| | | NAME | | | | | | | | | | | | | | | | | | DATE | |
| DESIGNED | | | | | | | | | | | | | | | | | | | | | |
| DRAWN | | ASP | | | | | | | | | | | | | | | | | | 29-06-16 | |
| CHECKED | | | | | | | | | | | | | | | | | | | | | |
| APPROVED | | | | ▽▽▽ | | | ▽▽▽ | | | ▽▽ | | | ▽ | | ~ | | SUPERSEDES | | | | |
| | | | | N1 | N2 | N3 | N4 | N5 | N6 | N7 | N8 | N9 | N10 | N11 | N12 | | | | | | |
| | | | | 0.025 | 0.05 | 0.1 | 0.2 | 0.4 | 0.8 | 1.6 | 3.2 | 6.3 | 12.5 | 25 | 50 | SUPERSEDED BY | | | | | |
| FINISH ▽ IF NOT SHOWN | | | | SURFACE FINISH IN μm AS PER IS:696 - 1972 | | | | | | | | | | | | | | | | | |
| SCALE - 1 : 2 | | TITLE | | | | | | | | | | | | | | | | | | | |
|  | | <div>MOTOR PULLEY</div> <div>(FOR MOTOR SLIDING UNIT)</div> | | | | | | | | | | | | | | DRG. No. | | | | | |
| | | | | | | | | | | | | | | | | M42P001 - 13 - 11 - A4 | | | | | |
| | | SHEET 1 | | | | | | | | | | | | | | OF 1 | | | | | |





SECTION - 'YY

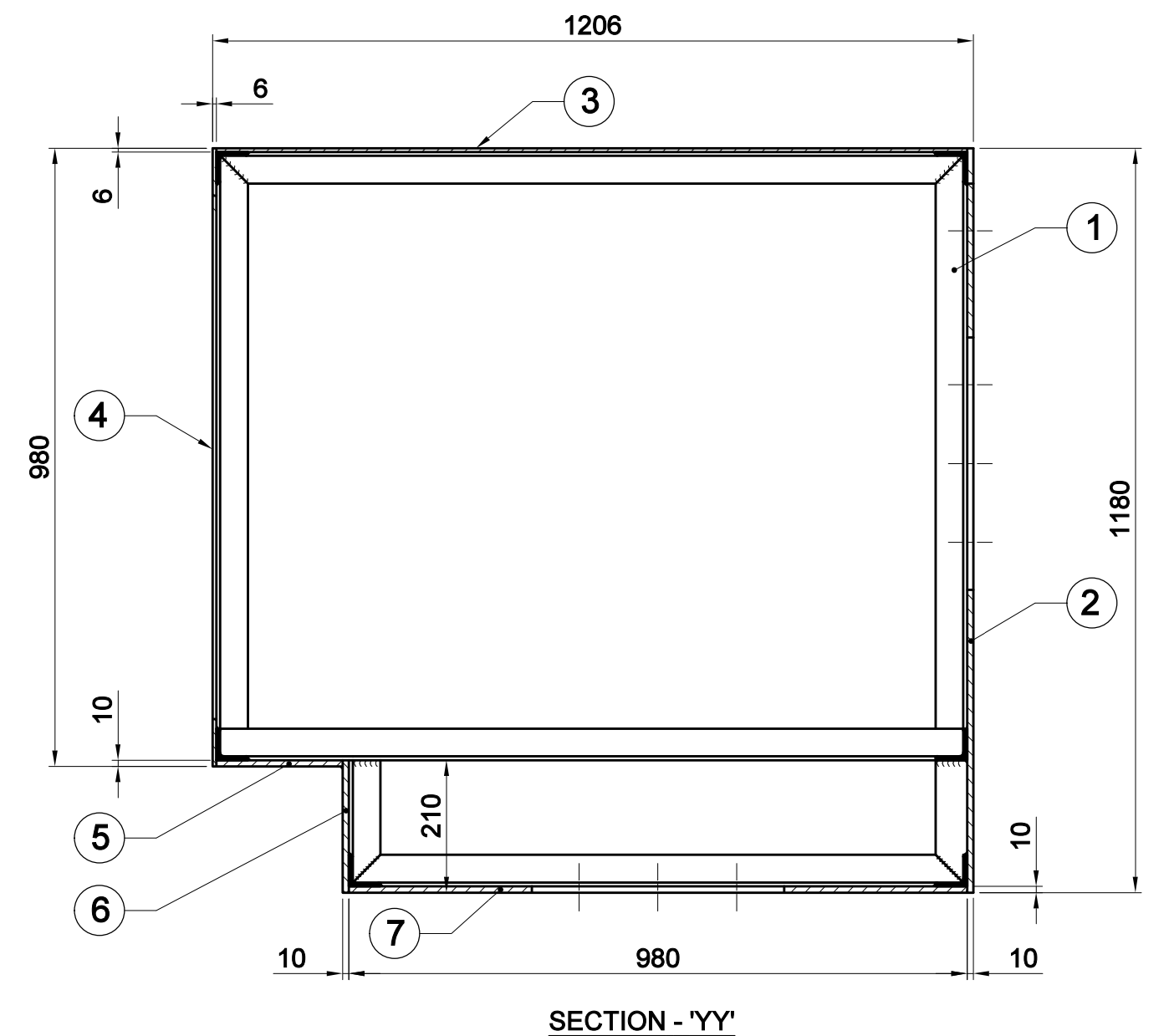
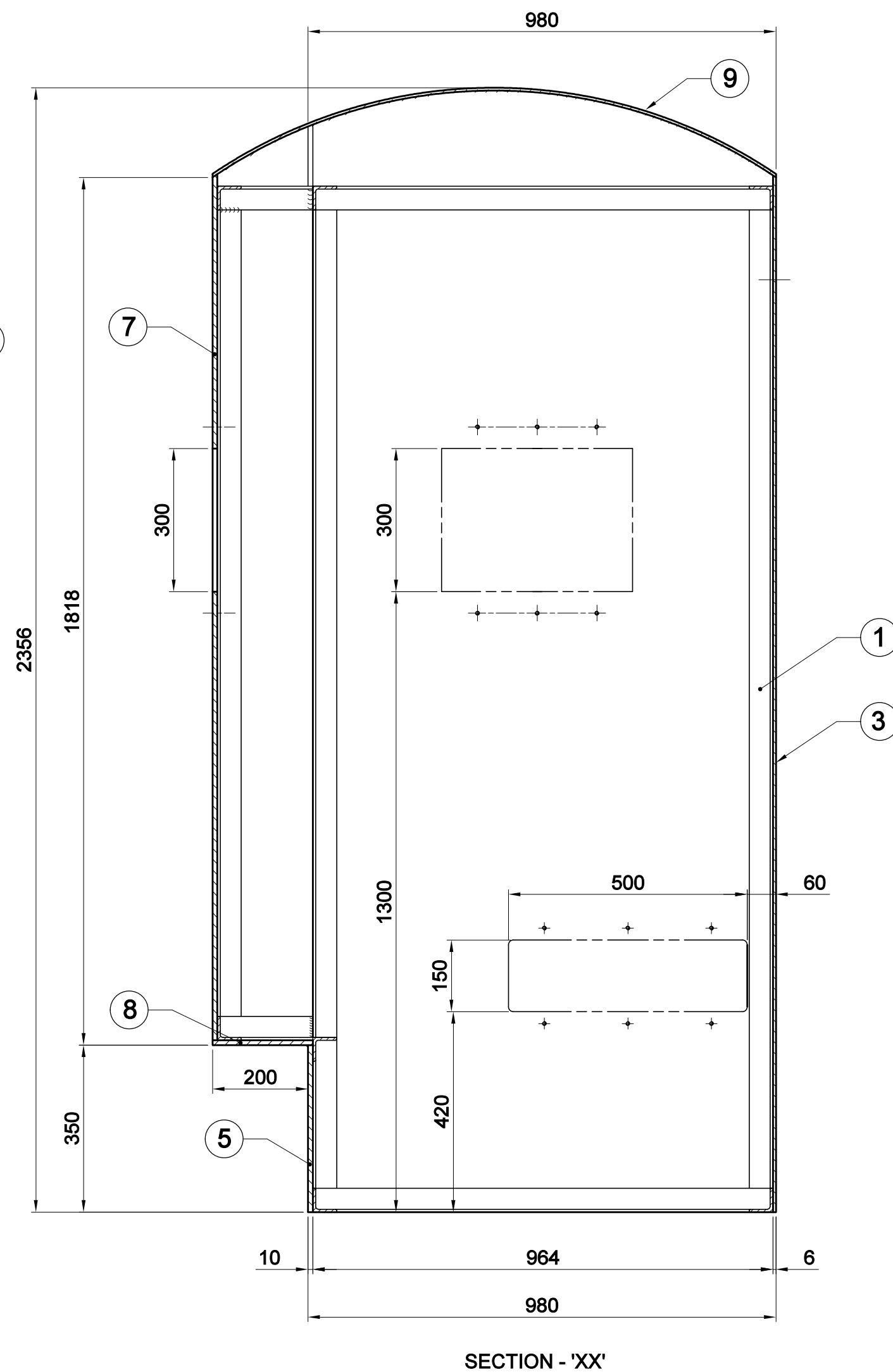
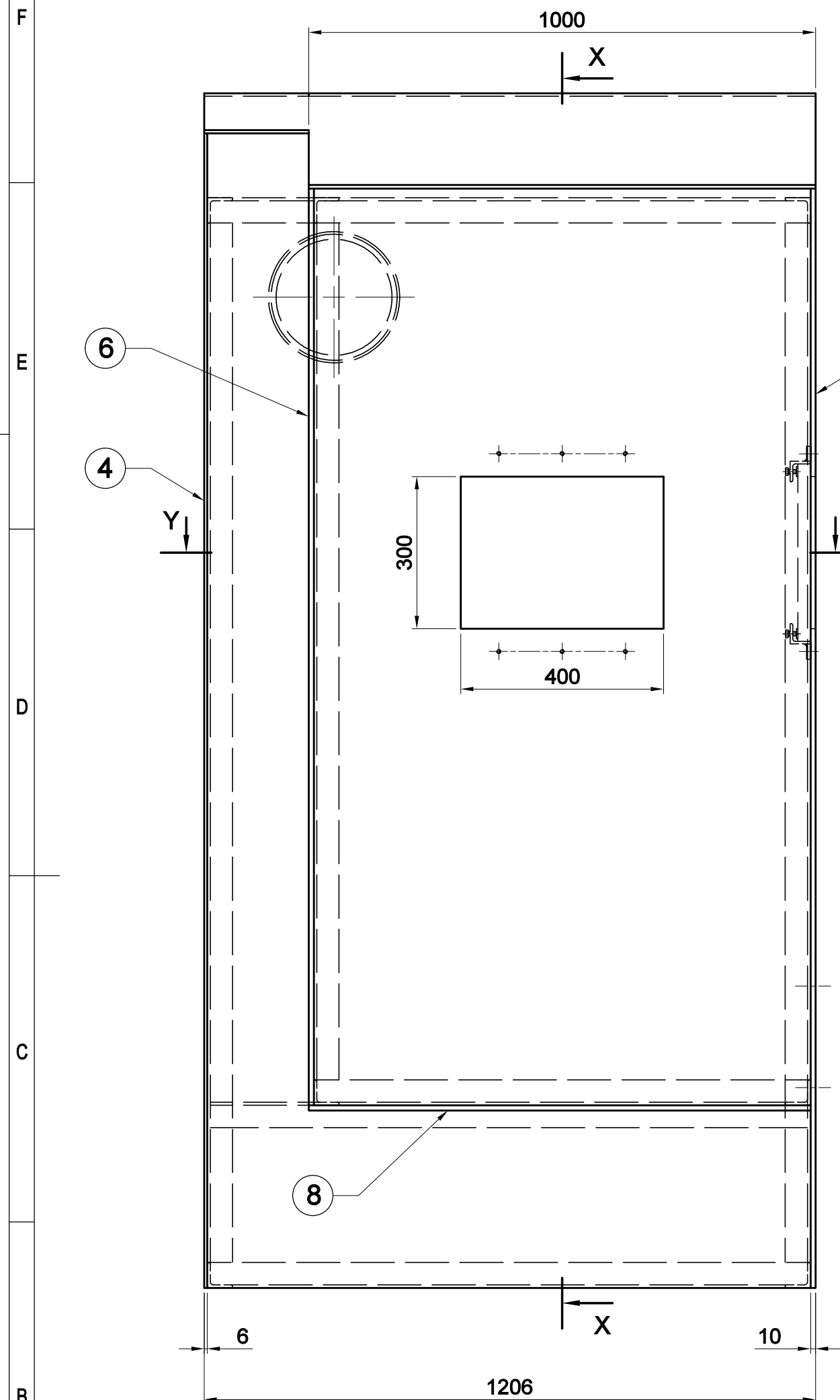



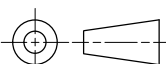
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|---|--|----------|--|---|--|-------|--|------|--|--|--|-----|--|---------|--|--------------|--|------------|--|-------|--|----------|--|------|--|-----|--|-----|--|---------------|--|
| SI.No. | | DRG. No. | | DESCRIPTION | | | | | | MATERIAL | | | | No. OFF | | | | PER PCE. | | TOTAL | | REMARKS | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | WEIGHT kg. | | | | | | | | | | | | | |
| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | | | | | | | | DEPT. : AUTO GRINDING SHOP | | | | | | TOTAL Wt. kg | | | | | | — | | | | | | | | | |
| W.O.No. : 18 - 2 - 032 | | | |  | | | | | | <div>Mishra Dhatu Nigam Ltd</div> <div>SUPER ALLOYS PLANT</div> <div>HYDERABAD</div> | | | | | | | | | | | | | | | | | | | | | |
| | | NAME | | | | | | | | | | | | | | | | | | | | DATE | | | | | | | | | |
| DESIGNED | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DRAWN | | ASP | | | | | | | | | | | | | | | | | | | | 13-06-18 | | | | | | | | | |
| CHECKED | | | | | | ▽▽▽▽ | | ▽▽▽▽ | | ▽▽ | | ▽ | | ~ | | SUPERSEDES | | | | | | | | | | | | | | | |
| APPROVED | | | | | | N1 | | N2 | | N3 | | N4 | | N5 | | N6 | | N7 | | N8 | | N9 | | N10 | | N11 | | N12 | | SUPERSEDED BY | |
| | | | | | | 0.025 | | 0.05 | | 0.1 | | 0.2 | | 0.4 | | 0.8 | | 1.6 | | 3.2 | | 6.3 | | 12.5 | | 25 | | 50 | | | |
| FINISH ▽ IF NOT SHOWN | | | | SURFACE FINISH IN um AS PER IS:696 - 1972 | | | | | | | | | | | | E | | | | | | | | | | | | | | | |
| SCALE - 1 : 10 | | | | TITLE | | | | | | DRG. No. | | | | | | | | | | | | | | | | | | | | | |
|  | | | | CABIN ASSY. | | | | | | M42P001 - 14 - 00 - A2 | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | SHEET 1 | | | | OF 3 | | | | | | | | | |

NOTE:

1. ALL DIMENSIONS ARE IN mm .U.O.S.
2. REMOVE BURRS & SHARP CORNERS
3. FREE MEASURE TOLERANCE SHOULD BE AS PER MEDIUM IS:2102 - 1969 U.O.S.
4. FOLLOW RELEVANT INDIAN STANDARDS FOR MANUFACTURE
5. DO NOT SCALE DRAWING.
6. ASK IF IN DOUBT.

| | | | | | | |
|-----------------|-------------|----------------|----------------|-----------|-------------|----------------------|
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| No. | DATE | W.O.No. | REMARKS | BY | APPD | REF. DRG. No. |
| REVISION | | | | | | |

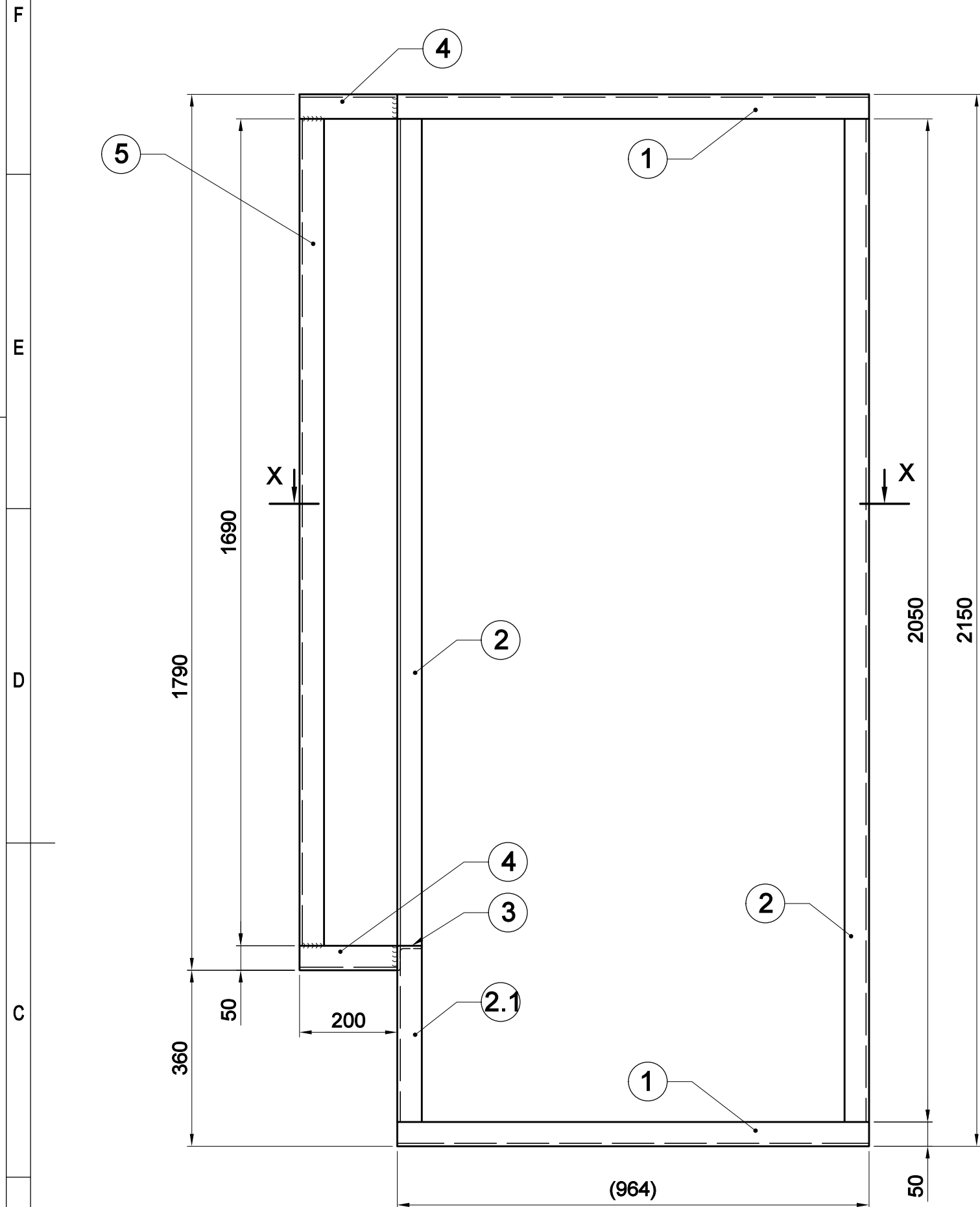


| | | | | | | | | | | | | | | | |
|---|---|---|--|----------|----------|----------------|---------|-----|----------|-----|------------|------------------------|-----|--|--|
| 9 | M42P001 - 14 - 01 - B2 SH 3 OF 3 OF S.No - 7 | TOP PLATE 6 thk. x 1225 x 1206 | St 42S, IS : 226-75 | 1 | - | - | - | | | | | | | | |
| 8 | - | PLATE - 7 10 thk. x 990 x 210 | St 42S, IS : 226-75 | 1 | - | - | - | | | | | | | | |
| 7 | M42P001 - 14 - 01 - B2 SH 3 OF 3 OF S.No - 5 | PLATE - 6 10 thk. x 1815 x 980 | St 42S, IS : 226-75 | 1 | - | - | - | | | | | | | | |
| 6 | M42P001 - 14 - 01 - B2 SH 3 OF 3 OF S.No - 4 | PLATE - 5 10 thk. x 1921 x 210 | St 42S, IS : 226-75 | 1 | - | - | - | | | | | | | | |
| 5 | M42P001 - 14 - 01 - B2 SH 3 OF 3 OF S.No - 3 | PLATE - 4 10 thk. x 2281 x 1190 | St 42S, IS : 226-75 | 1 | - | - | - | | | | | | | | |
| 4 | M42P001 - 14 - 01 - B2 SH 3 OF 3 OF S.No - 2 | PLATE - 3 6 thk. x 2350 x 980 | St 42S, IS : 226-75 | 1 | - | - | - | | | | | | | | |
| 3 | M42P001 - 14 - 01 - B2 SH 3 OF 3 OF S.No - 6 | PLATE - 2 6 thk. x 2172 x 1190 | St 42S, IS : 226-75 | 1 | - | - | - | E | | | | | | | |
| 2 | M42P001 - 14 - 01 - B2 SH 3 OF 3 OF S.No - 1 | PLATE - 1 10 thk. x 2350 x 1180 | St 42S, IS : 226-75 | 1 | - | - | - | | | | | | | | |
| 1 | M42P001 - 14 - 01 - B2 SH 2 OF 3 | CABIN FRAME | St 42S, IS : 226-75 | 1 | - | - | - | | | | | | | | |
| SI.No. | DRG. No. | DESCRIPTION | MATERIAL | No. OFF | PER PCE. | TOTAL | REMARKS | | | | | | | | |
| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | DEPT. : AUTO GRINDING SHOP | | | TOTAL Wt. kg - | | | | | | | | | |
| W.O.No. : 18 - 2 - 032 | |  | <div>Mishra Dhatu Nigam Ltd</div> <div>SUPER ALLOYS PLANT</div> <div>HYDERABAD</div> | | | | | | | | | | | | |
| | NAME | | | | | | | | DATE | | | | | | |
| DESIGNED | | | | | | | | | | | | | | | |
| DRAWN | ASP | | | | | | | | 30-05-18 | | | | | | |
| CHECKED | | | | | | | | | | | | | | | |
| APPROVED | | | ▽▽▽ | | ▽▽▽ | | ▽ | | ~ | | SUPERSEDES | | | | |
| | | N1 | N2 | N3 | N4 | N5 | N6 | N7 | N8 | N9 | N10 | N11 | N12 | | |
| | | 0.025 | 0.05 | 0.1 | 0.2 | 0.4 | 0.8 | 1.6 | 3.2 | 6.3 | 12.5 | 25 | 50 | | |
| FINDING <input type="checkbox"/> IF NOT SHOWN | | SURFACE FINISH IN um AS PER IS:696 - 1972 | | | | | | | | | | | | | |
| SCALE - 1 : 10 | | TITLE | | DRG. No. | | | | | | | | | | | |
|  | | CABIN | | | | | | | | | | M42P001 - 14 - 01 - B2 | | | |
| | | SHEET 1 OF 3 | | | | | | | | | | | | | |

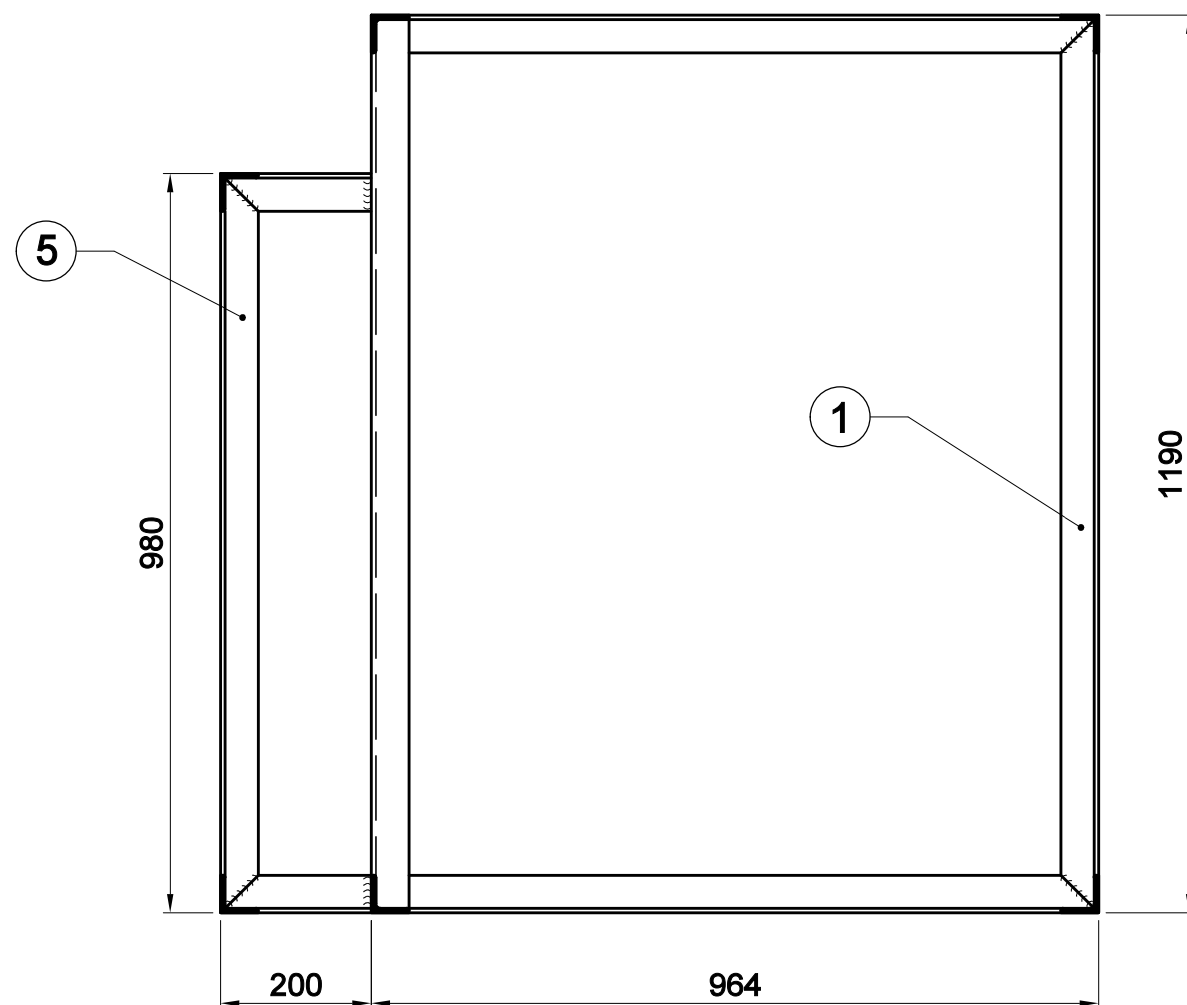
THIS DRAWING IS THE PROPERTY OF M/s MISHRA DHATU NIGAM LTD,
AND SHOULD NOT BE GIVEN OR HANDED OVER OR DIVULGED
TO ANY OTHER PERSON WITHOUT THE EXPRESS PERMISSION
OF THE COMPANY IN WRITING. THE MATTER GIVEN ON THIS DRAWING
IS TO BE TREATED AS STRICTLY CONFIDENTIAL.

| |
|--|
| <p>NOTE:</p> <ol style="list-style-type: none">1. ALL DIMENSIONS ARE IN mm .U.O.S.2. REMOVE BURRS & SHARP CORNERS3. FREE MEASURE TOLERANCE SHOULD BE AS PER MEDIUM IS:2102 - 1969 U.O.S.4. FOLLOW RELEVANT INDIAN STANDARDS FOR MANUFACTURE5. DO NOT SCALE DRAWING.6. ASK IF IN DOUBT. |
|--|

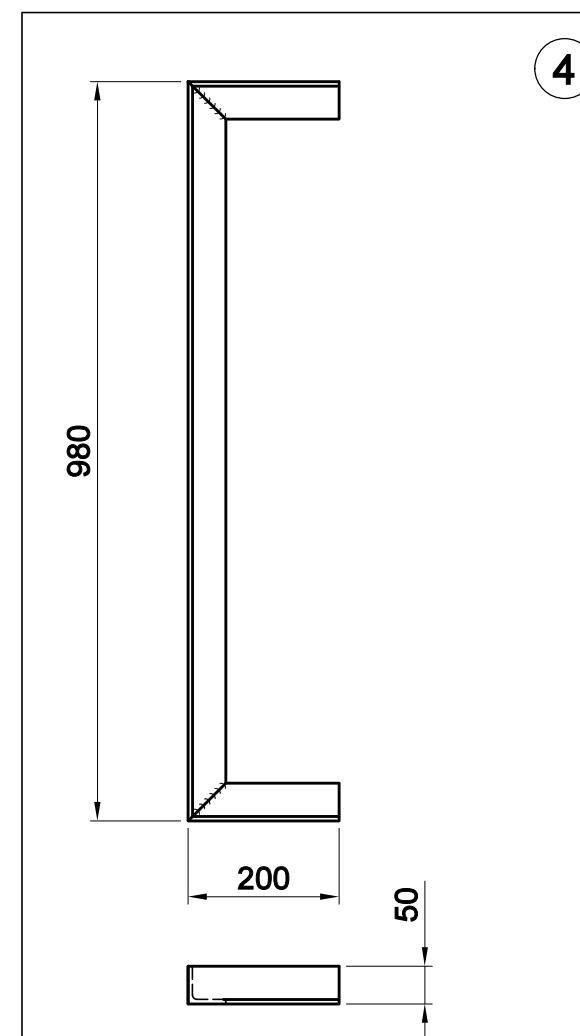
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|----------|----------|--------------|--|----|------|---------------|
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| B | 30-05-18 | 18 - 2 - 032 | DRG. No'S MODIFIED, VIEW PORT ADDED & S.No 17 ADDED | BY | APPD | |
| No. | DATE | W.O.No. | REMARKS | BY | APPD | |
| REVISION | | | | | | REF. DRG. No. |



NOTE:
ALL WELDS ARE OF 10 mm SIZE.

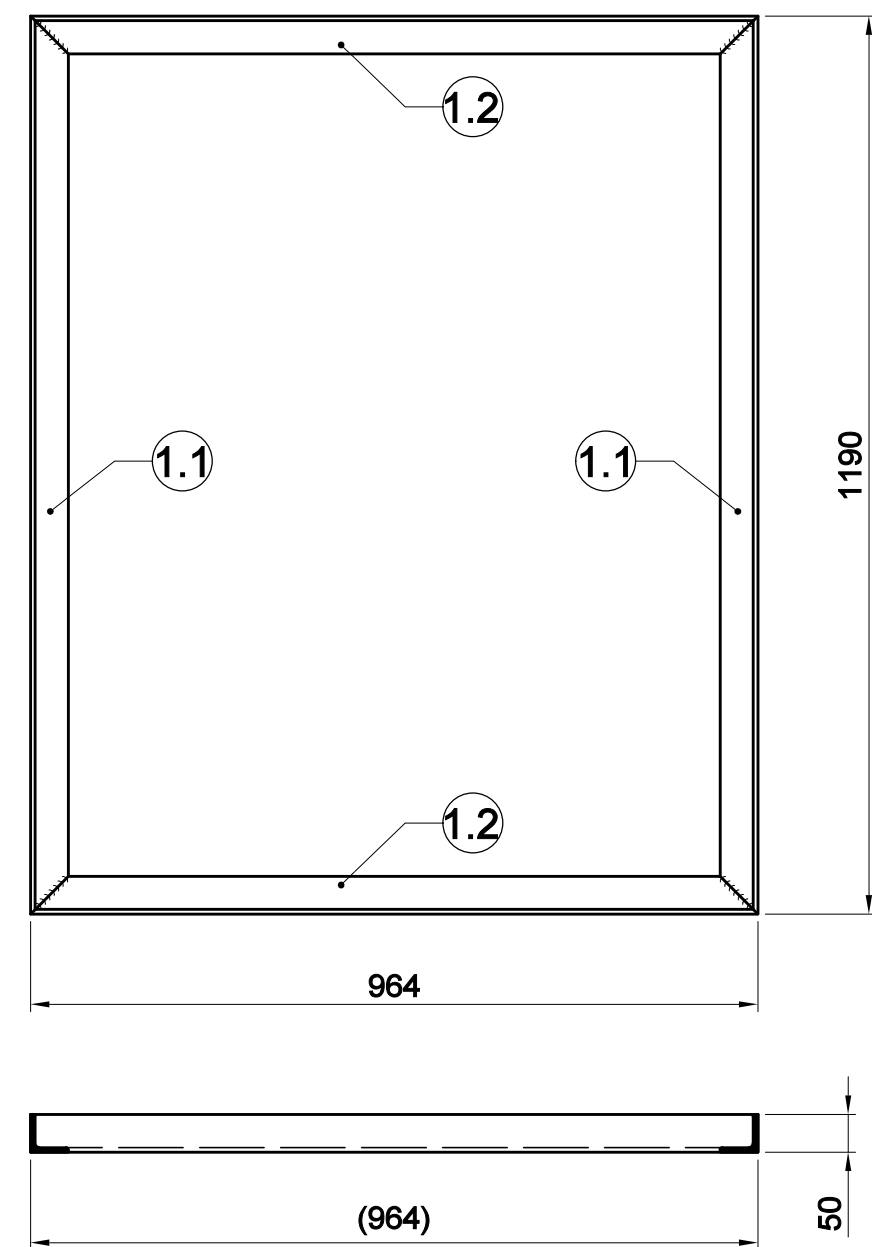



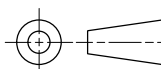
SECTION - 'XX'



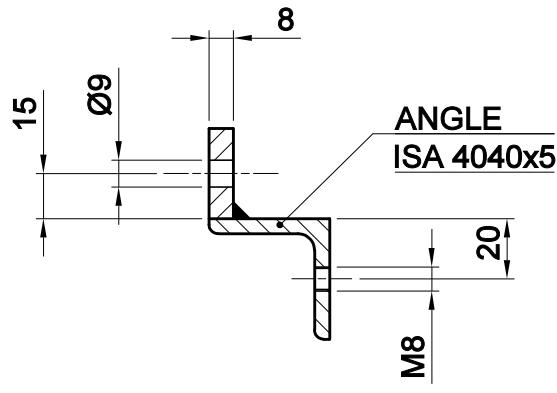
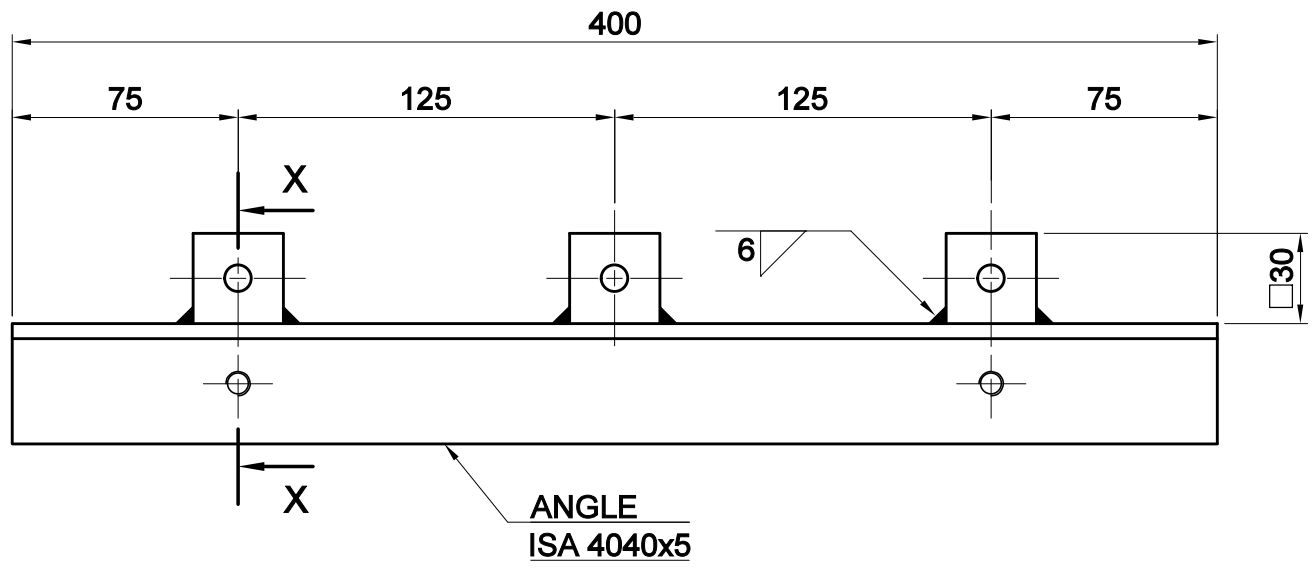
NOTE:

1. ALL DIMENSIONS ARE IN mm .U.O.S.
2. REMOVE BURRS & SHARP CORNERS
3. FREE MEASURE TOLERANCE SHOULD BE AS PER MEDIUM IS:2102 - 1969 U.O.S.
4. FOLLOW RELEVANT INDIAN STANDARDS FOR MANUFACTURE
5. DO NOT SCALE DRAWING.
6. ASK IF IN DOUBT.




| | | | | | | | | | | | | | | |
|---|----------|---|--|---------|----------|------------------------|---------|-----|----------|-----|------------|-----|-----|---------------|
| 5 | - | ANGLE 50 x 50 x 6 - 1690 LG. | St 42S, IS : 226-75 | 2 | - | - | - | C | | | | | | |
| 4.2 | - | ANGLE 50 x 50 x 6 - 200 LG. | St 42S, IS : 226-75 | 2 | - | - | - | | | | | | | |
| 4.1 | - | ANGLE 50 x 50 x 6 - 980 LG. | St 42S, IS : 226-75 | 1 | - | - | - | | | | | | | |
| 4 | - | FRAME - 2 | St 42S, IS : 226-75 | 2 | - | - | - | | | | | | | |
| 3 | - | ANGLE 50 x 50 x 6 - 1178 LG. | St 42S, IS : 226-75 | 1 | - | - | - | | | | | | | |
| 2.1 | - | ANGLE 50 x 50 x 6 - 360 LG. | St 42S, IS : 226-75 | 3 | - | - | - | | | | | | | |
| 2 | - | ANGLE 50 x 50 x 6 - 2050 LG. | St 42S, IS : 226-75 | 3 | - | - | - | | | | | | | |
| 1.2 | - | ANGLE 50 x 50 x 6 - 964 LG. | St 42S, IS : 226-75 | 2 | - | - | - | B | | | | | | |
| 1.1 | - | ANGLE 50 x 50 x 6 - 1190 LG. | St 42S, IS : 226-75 | 2 | - | - | - | | | | | | | |
| 1 | - | FRAME - 1 | St 42S, IS : 226-75 | 2 | - | - | - | | | | | | | |
| Sl.No. | DRG. No. | DESCRIPTION | MATERIAL | No. OFF | PER PCE. | TOTAL WEIGHT kg. | REMARKS | | | | | | | |
| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | DEPT. : AUTO GRINDING SHOP | | | TOTAL Wt. kg - | | | | | | | | |
| W.O.No. : 18 - 2 - 032 | |  | <div>Mishra Dhatu Nigam Ltd</div> <div>SUPER ALLOYS PLANT</div> <div>HYDERABAD</div> | | | | | | | | | | | |
| | NAME | | | | | | | | DATE | | | | | |
| DESIGNED | | | | | | | | | | | | | | |
| DRAWN | ASP | | | | | | | | 30-05-18 | | | | | |
| CHECKED | | | | | | | | | | | | | | |
| APPROVED | | | ▽▽▽ | | ▽▽▽ | | ▽ | | ~ | | SUPERSEDES | | | |
| | | N1 | N2 | N3 | N4 | N5 | N6 | N7 | N8 | N9 | N10 | N11 | N12 | SUPERSEDED BY |
| | | 0.025 | 0.05 | 0.1 | 0.2 | 0.4 | 0.8 | 1.8 | 3.2 | 6.3 | 12.5 | 25 | 50 | |
| FINISH ▽ IF NOT SHOWN | | SURFACE FINISH IN um AS PER IS:696 - 1972 | | | | | | | | | | | | |
| SCALE - 1 : 10 | | | TITLE | | | DRG. No. | | | | | | | | |
|  | | | <u>CABIN FRAME</u> | | | M42P001 - 14 - 01 - B2 | | | | | | | | |
| | | | | | | SHEET 2 OF 3 | | | | | | | | |

NOTE: 1.ALL DIMENSIONS ARE IN mm .U.O.S.
2.REMOVE BURRS & SHARP CORNERS
3.FREE MEASURE TOLERANCE SHOULD BE AS PER MEDIUM IS:2102 - 1969 U.O.S.
4.FOLLOW RELEVANT INDIAN STANDARDS FOR MANUFACTURE
5.DO NOT SCALE DRAWING.
6.ASK, IF IN DOUBT.



SECTION - 'XX'

MATERIAL : -

| | | | | | | | | |
|---------------------------------------|----------|-------------|---|---------|------------|-------|---------|---------------|
| SI.No. | DRG. No. | DESCRIPTION | MATERIAL | No. OFF | PER PCE. | TOTAL | REMARKS | |
| EQPT. : AUTO BILLET GRINDER (MIDHANI) | | | DEPT. : AUTO GRINDING SHOP | | WEIGHT kg. | | | |
| W.O.No. : 18 - 2 - 032 | | | TOTAL Wt. kg | | | | | |
| DESIGNED | NAME | DATE | <div><div>Mishra Dhatu Nigam Ltd SUPER ALLOYS PLANT HYDERABAD</div></div> | | | | | |
| DRAWN | ASP | 13-06-18 | | | | | | |
| CHECKED | | | | | | | | |
| APPROVED | | | | | | | | |
| FINISH ▽ IF NOT SHOWN | | | SURFACE FINISH IN μm AS PER IS:696 - 1972 | | | | | SUPERSEDES |
| SCALE - 1 : 2.5 | | | TITLE | | | | | SUPERSEDED BY |
| TITLE | | | DRG. No. | | | | | |
| GLASS FIXING FRAME | | | M42P001 - 14 - 03 - A4 | | | | | |
| SHEET 1 | | | OF 1 | | | | | |

THIS DRAWING IS THE PROPERTY OF M/s MISHRA DHATU NIGAM LTD. AND SHOULD NOT BE GIVEN OR HANDED OVER OR DIVULGED TO ANY OTHER PERSON WITHOUT THE EXPRESS PERMISSION OF THE COMPANY IN WRITING. THE MATTER GIVEN ON THIS DRAWING IS TO BE TREATED AS STRICTLY CONFIDENTIAL.

GENERAL TERMS AND CONDITIONS FOR INDEGENOUS SOURCES**1. DEFINITIONS:****PURCHASER:**

The term "Purchaser" as used herein shall mean Mishra Dhatu Nigam Limited, incorporated under the Companies Act, 1956, and having its registered office at P.O. Kanchanbagh, Hyderabad - 500 058, India, and shall include its successors and assigns.

TENDERER:

The term "Tenderer" shall mean the person, firm or corporation submitting a tender against the Invitation to tender and shall include his/its heirs, executors, administrators, legal representatives, successors and assigns.

SUCCESSFUL TENDERER/SUPPLIER/CONTRACTOR:

The term "Successful Tenderer/Supplier/Contractor" shall mean the Tenderer whose tender has been accepted and shall include his/its heirs, executors, administrators, legal representatives, successors and assigns approved by the Purchaser.

2. The Tenderer shall indicate/furnish the following in his offer (if applicable):

- a. Manufacturer's Name & Address.
- b. Country of origin of goods.
- c. Delivery period.
- d. Mode of packing.
- e. Net weight and Gross weight.
- f. Technical Literature / Catalogue/Specifications.
- g. Details of Shelf life, if any, applicable for the goods offered.
- h. Your Banker's Name, Address & Details.
- i. A confirmation that the price quoted is your lowest export price and is the same as you would normally quote to Government department and other favored customers.
- j. HSN Code for all the Items quoted along with applicable GST Rates.
- k. TARIFF HEAD UNDER H. S. (HARMONISED SYSTEM).

3. Any Order resulting from this invitation to tender shall be governed by our General Terms and Conditions of Contract and the supplier quoting against this enquiry Shall be deemed / to have read and understood the same.**4. Where counter terms and conditions have been offered by the Tenderer, the purchaser shall not be governed by these unless specific acceptances have been given in writing in the order by the Purchaser****5. The offer should be complete in all respects. Full particulars and descriptive literature and drawings should be forwarded along with the quotation. The make of the items offered should be clearly specified. Materials should be offered strictly confirming to our specifications. The deviations if any, should be clearly indicated in the quotation. Test certificates must be produced, wherever required where stipulated samples should be forwarded along with the quotation. Material confirming to IS will be preferred.****6. PRICES:**

Price Basis: FOR Midhani, Hyderabad basis shall be quoted. The prices must be unit shown inclusive of packing, forwarding, insurance, Octroi duty and delivery charges and should be on FOR destination basis. Offers from local suppliers should be for free delivery at our stores

GENERAL TERMS AND CONDITIONS FOR INDEGENOUS SOURCES**7. TAXES:**

The Tenderer shall indicate their GST Number & date in the quotation. Taxes payable have to be clearly indicated in the quotation. The nature of duties and applicable percentages thereof and the items on which such taxes are leviable along with applicable HSN code shall be indicated in the Offer. Payment of taxes shall be as applicable at the time of supply and on production of documentary evidence. Statutory variation in the rate of Taxes during the delivery period shall be accepted.

8. RIGHT OF ACCEPTANCE:

The purchaser does not bind himself to accept the lowest or any other tender and reserves the right of accepting the whole or any part of the tender or portion of the quantity offered. Within a period of six months from the date of completion of the order, the Purchaser further reserves the right to place order on the successful tenderer for an additional upto 100% of the original ordered quantity.

9. INSPECTION:

The Purchaser reserves the right to get the Stores inspected before commencement of supplier/ or on arrival at our factory by an inspecting officer authorized by the Purchaser. The Tenderer should be in a position show and/ or send samples of material on demand.

10. PACKING:

The stores should be securely packed and properly marked to avoid loss or damage in Transit by Rail /Road.

11. TO RECOVER LIQUIDATED DAMAGES:

Liquidated Damages shall be levied against Suppliers/Contractors in the event of unsatisfactory, delayed or non supply of materials/execution of Contract beyond the date of delivery/completion of job. LD is leviable at the rate of 1% of the total order/contract prices per week or part there of subject to a maximum 10% of the order/contract prices including taxes & duties without prejudice to the right of the purchaser to take any other action. The amount shall also be recoverable from any other contract on account of the supplier. The payment or deduction of such damages shall not relieve the contractor from his obligations to complete the work or from any other of his obligations and liabilities under the contract. MIDHANI shall issue GST Invoice/Debit Note for the LD deducted on the name of Supplier/Contractor against which GST credit may be availed, if applicable

12. RISK PURCHASE:

The supply of all items must be completed satisfactory and within the specified period in the order failing which, the Purchaser reserves the right to purchase stores from other sources at the suppliers cost and risk.

13. GUARANTEE:

The supplier shall guarantee the store supplied in respect of good design, quality and workmanships for a period of 12 months from the commissioning or 18 months from the date of supply whichever is earlier.

14. VALIDITY:

The offer should be valid for a minimum period of 180 days from the date of opening of tender.

GENERAL TERMS AND CONDITIONS FOR INDEGENOUS SOURCES

15. ADDENDA TO TENDER DOCUMENTS:

The Purchaser reserves the right to issue addenda to the tender documents to clarify, modify, supplement or delete any of the condition, clause or items stated in the tender documents issued with this invitation to Tender. Each addendum issued will be distributed to each tenderer or his authorized representative and the addendum so issued shall form a part of the original tender documents to be reviewed as required.

16. In case the item offered is covered by DGS & D Rae Contract, the rate should be as per R/C and a copy of R/C should be enclosed with the offer.

17. EARNEST MONEY DEPOSIT (EMD):

Tenderer/Bidder are required to furnish EMD of amount specified in tender (NIT) Through Online or in the form Bank Guarantee (BG) is acceptable.

All Bidders are requested to Submit the "EMD & Security Deposit "online through the below Link: <http://ebs.in/midhani/public/> (or)

Visit Midhani website <http://www.midhani-india.in> > Purchase > Tenders > **TENDER FEE, EMD FEE(EARNEST MONEY DEPOSIT) AND SECURITY DEPOSIT - ONLINE PAYMENT**

In case of EMD/SD in the form of Bank Guarantee(BG), bidder shall submit BG as per format in the tender document,

- i. In Indian Currency – from a Nationalized Bank or Scheduled Bank encashable in India.
- ii. In Foreign Currency – from SBI, Frankfurt/ SBI, New York / any Nationalized Bank or Scheduled Bank encashable in India.
- iii. EMD Bank guarantee shall be valid for a period of 90 days.
- iv. Security Deposit Bank guarantee shall be valid till material is received and accepted at Midhani.

EMD Exemption:

(I) As per Public Procurement Policy(PPP) for Micro & Small Enterprises (MSEs) order,2012 vide Gazette notification dated 23.03.2012 by Ministry of Micro, Small and Medium Enterprises of Govt of India, the following benefits will be extended to the MSEs.

EMD is exempted for Micro & Small Enterprises(MSEs) registered with DIC/NSIC/KVIC/Udyog Aadhar Memorandum (UAM)issued by MoMSME or any other body specified by Ministry of MSME.

Purchase Preference: The following Purchase preference procedure is followed as per Ministry guidelines for award of quantity/order

| Type of Tender | Price quoted by MSE | Finalization of tender |
|--------------------------------|-----------------------------|--|
| (i) If tender can be split | L-1 | Full order on MSE |
| (ii)If tender can be Split | Not L-1 but with in L1+15% | 20% order on MSE subject to matching with L-1 price |
| (iii)If tender cannot be split | L-1 | Full order on MSE |
| (iv)If tender cannot be split | Not L-1 but within L-1 +15% | Full order on MSE subject to matching with L-1 Price |

GENERAL TERMS AND CONDITIONS FOR INDEGENOUS SOURCES**Note:**

- (i) In case more than one MSE enterprise quotes same price, the supply/order shall shared proportionally (to tender quantity) if tender can be split.
- (ii) If the MSE who have quoted lowest rate among the MSEs in the price band of L-1 + 15% do not agree to match the rate of L-1 of the tender, then the next ranked MSE bidder who has quoted within the price band of L1+15% in order shall be given chance to match the rate of L-1 for award of the quantity/order.
- (ii) All Central PSU's & Government departments / Authorities as well as Original Raw Material Manufacturers may be exempt from submission of EMD in all tenders.

18. SECURITY DEPOSIT (SD):

The successful tenderer/Bidder shall be required to furnish SD as specified in tender (NIT) within 21 days from the date of Purchase Order. **In case Security Deposit is not submitted within the stipulated time as above, interest @ 12% p.a. shall be levied for the period of delay beyond the stipulated time. Interest as above may be either deposited by the supplier / contractor or recovered from any amounts due to the supplier / contractor.**

The security deposit shall be for the due and faithful performance of the contract and shall remain binding notwithstanding such variations, alterations or extensions of time as it may be made, given, conceded or agreed to between the Supplier/Contractor and Purchaser.

The Security Deposit furnished by the successful tenderer will be subject to the Terms & Conditions of the order/contract finally concluded between the parties and the Purchaser will not be liable for payment of any interest on the security deposit or any depreciation thereof.

The Security Deposit shall be refunded on application by the contractor after expiry of the contract period and after he has discharges all his obligations under the contract and produced a certificate from the Purchaser's authorized representatives certifying the due completion & acceptance of the work.

All Government Departments and Central PSUs are exempted from payment of Security Deposit. In all cases where SD is exempted, in case of failure of the bidder to accept / execute the contract as per agreed terms, the bidder shall not be permitted to participate in the re-tender for the same item. Suitable penal action in accordance with other provisions of the Tender shall also be applicable.

19. MAKE IN INDIA:

Public Procurement (Preference to Make in India) Clause:

Purchase preference will be granted as per Public Procurement (Preference to Make in India), Order-2017 as amended, issued by DPIIT/Ministry of Commerce and Industry.

This tender notice/RFP complies with Public Procurement (Preference to Make in India), Order 2017 by Department of Industrial Policy and Promotion, Ministry of Commerce and Industry Government of India issued vide letter No. P-45021/2/2017-B.E-II dated: 15th June'2017 and as amended. (For latest updates refer to www.dpiit.gov.in). The following is add-on information. However it is mandatory to refer website www.dpiit.gov.in for latest update prior to responding for this tender. Brief of recent amendment issued vide letter No: P-45021/2/2017-PP (BE-II) dated: 16th Sept'2020 is given below.

GENERAL TERMS AND CONDITIONS FOR INDEGENOUS SOURCES

(a) Types of Suppliers:

Class – I Local Supplier : Local content = 50% Minimum

Class – II Local Supplier : Local content = 20% Minimum and less than 50%

Non-Local Supplier : Local content = Less than 20%

(b) Margin of purchase preference = 20%

(c) Preference (s):

- i. “Class-I Local Supplier” is only eligible to bid irrespective of bid value for which Nodal ministry has declared there is sufficient local capacity available for the tendered stores/service.
- ii. “Class-I Local” Supplier and “Class-II Local Supplier” as defined under the order shall be eligible to bid for procurements except when Global tender enquiry has been issued. In Global tender enquiries, non local suppliers shall also be eligible to bid along with ‘Class-I Local Supplier’ and “Class-II Local Suppliers’.
- iii. Works includes Engineering, procurement and construction (EPC) contracts and services include system integrator (SI) contracts

(d) L1-Declaration Methodology for divisible goods or works:

- i. Among all qualified bids, Lowest bid is termed as L1
- ii. If L1 = Class-I Local Supplier, full quantity will be awarded to L1;
- iii. If L1 bid is not Class-I local supplier, 50% of the order quantity shall be awarded to L1 and balance 50% quantity will be awarded to the lowest bidder among the “Class-I Local Suppliers” to match the L1 price and subject to his quoted price falling within 20% of L1 price; If fails to match, the same will be offered to next higher bidder among Class-I Local Suppliers and so on. In case some quantity left uncovered on class-I local suppliers, such balance quantity shall be awarded to L1.

(e) L1-Declaration Methodology for non-divisible goods or works:

- i. Among all qualified bids, Lowest bid is termed as L1
- ii. If L1 = Class-I Local Supplier, order will be awarded to L1
- iii. If L1 = Not a Class-I Local Supplier then order will be awarded to the lowest bidder among the “Class-I Local Suppliers” to match the L1 price subject to his quoted price falling within 20% of L1 price.
- iv. If fails to match, the same will be offered to next higher bidder among Class-I Local Suppliers and so on.
- v. In case none of the Class-I Local Suppliers matches the L1 Price, then order shall be awarded to L1.

(f) Verification of Local Content:

- i. The Class-I Local Supplier / Class-II Local Supplier need to provide percentage of local content, location(s) of value addition and self-certification to this effect along with their technical bidding document.
- ii. For procurement value more than Rs. 10 Crores, the Class –I Local Supplier / Class-II Local Supplier need to provide percentage of local content, location(s) of value addition and certification to this effect obtained from Statutory Auditor / Cost Auditor (for companies) or from Practicing Cost Accountant or Practicing Chartered Accountant (for other than companies) along with their technical bidding document.
- iii. In case any Bidder provides false certification with respect to local contents etc, bidder or their successor(s) can be debarred up to two years as per

GENERAL TERMS AND CONDITIONS FOR INDEGENOUS SOURCES

provisions of GFR along with such other actions as may be permissible under law.

Note: For complete details, please refer Public Procurement (Preference to Make in India) Order 2017 P-45021/2/217-PP (BE-II) revision dated: 16th Sept'2020 (Enclosed)

20. NO CLAIM OR COMPENSATION FOR SUBMISSION OF TENDER:

The tenderers whose tenders are not accepted shall not be entitled to claim any costs, charges and expenses of the tender, incidental to or incurred by them, through or in connection with their submission of tenders even though the Purchaser may elect to withdraw the invitation to tender.

21. LOWEST TENDER NOT NECESSARY TO BE ACCEPTED:

The Purchaser is not bound to accept the lowest or any tender or to assign reasons for its non-acceptance. The Purchaser also reserves the right to accept the tender either in whole or in part.

22. PRICE NEGOTIATIONS:

Price negotiations as such shall not be held, except in the case of negotiations with the lowest tenderer and accordingly, the tenderers shall have to submit their best commercial bids.

23. LOADING IN CASE OF COMMERCIAL DEVIATIONS:

In case of any acceptable commercial deviation, MIDHANI may evaluate the prices with appropriate loading at One year MCLR rate + 0.5% of SBI prevailing on the date of Technical bid opening.

The comparative assessment of offers received would be made on equal footing taking into account the financial implications for the deviations in terms and conditions. Conditional discounts offered by the tenderers for coverage within a shorter period for early inspection / payment etc., shall not be considered at the time of evaluation of tenders.

24. ARBITRATION:

Any dispute(s) or difference(s) whatsoever arises under or out of or in connection with the EOI/contract, or in respect of any defined legal relationship associated therewith or derived there from, shall be resolved/settled amicably, through mutual negotiation; failing which the differences shall be resolved by way of arbitration in accordance with the International Centre for Alternative Dispute Resolution (ICADR) Arbitration Rules 1996. The authority to appoint the arbitrator(s) shall be the International Centre for Alternative Dispute Resolution (ICADR). And will provide administrative services in accordance with ICADR Arbitration Rules 1996. The seat of arbitration shall be India. The language of the arbitration proceeding shall be English. The place of arbitration proceedings shall be Hyderabad, Telangana, India.

In case of PSU/Government organization DPE guidelines in force or as amended from time to time shall be applicable. In the event of any dispute or difference relating to the interpretation and application of the provisions of commercial contract(s) between Central Public Sector Enterprises (CPSEs)/Port Trusts inter se and also between CPSEs and Government dept./Organizations (Excluding disputes concerning Railways, Income Tax, Customs & Excise Dept.), such disputes or differences shall be taken up by either party for resolution through AMRCD as mentioned in DPE OM No. 4(1)/ 2013- DPE(GM)/FTS-1835 dated 22/5/2018 or the latest DPE Guidelines issued from time to time.

GENERAL TERMS AND CONDITIONS FOR INDEGENOUS SOURCES**25. JURISDICTION:**

All questions, disputes or differences arising under, out of or in connection with the contract shall be subject to the exclusive jurisdiction of court within local limits of Hyderabad, India.

26. BANKRUPTCY ETC.:

If the Supplier/Contractor shall become bankrupt or insolvent or cause or suffer any receiver to be appointed of his business or any asset thereof or compound with his creditors, or being a corporation commence to be wound up, or carry on its business under a Receiver for the benefits of its creditors or any of them, the Purchaser shall be at liberty:

- a. To terminate the contract forthwith upon coming to know of the happening of any such event as aforesaid by notice in writing to the Contractor or to the receiver / liquidator.
- OR
- b. To give such receiver, liquidator or other person the option of carrying out the contract subject to his providing guarantee up to an amount to be agreed for the due and faithful performance of the Contract.

27. CANCELLATION / SHORT CLOSURE OF PURCHASE ORDER:

The purchaser may, without prejudice to any other remedy for breach of Contract, by written notice of default sent to the supplier, terminate the contract in whole or in part:

- a) If the supplier fails to deliver any or all of the stores within the time period(s) specified in the contract, or any extension thereof granted by the Purchaser.
- b) If the supplier fails to perform any other obligation under the contract within the period specified in the contract or any extension thereof granted by the purchaser.
- c) Purchaser reserves the right to cancel the Purchase Order/ contract on its own under exceptional circumstances.

On receipt of notice for short closure, the contractor shall cease all further work, except for such work as may be specified in the notice for the sole purpose of protecting that part of the stores already executed. Further, the liability of MIDHANI in such cases will be limited to the extent of the cost as assessed by MIDHANI, in its opinion, till the point of short closure

28. REJECTED GOODS:

The rejected goods at MIDHANI premises will lie at the risk of the Vendor. They should be replaced immediately on receipt of intimation regarding rejection from Midhani. In case the rejected goods are not replaced within six weeks from the date of receipt of the inspection memo, MIDHANI is not responsible for any loss, damage and theft, and in addition, MIDHANI reserves the right to recover such amount as may be assessed on account of storage and incidentals or any other charges MIDHANI may have incurred.

The vendor has to lift the rejected material from MIDHANI within 6 months from the date of receipt of intimation. In case of rejected goods are in MIDHANI for more than 6 months, MIDHANI reserves the right to dispose of the same and Vendor shall not have any right for claiming the goods or damages thereof.

29. Only one vertical (Company) from a group of companies will be eligible to participate in the tender. MIDHANI reserves the right to reject the bids of all such parties summarily, if it is found that verticals under the same organizations have participated.

30. COO (Country Of Origin) certificate to be issued by chambers of commerce to avail discount in preferential custom duty amount in Indian customs.

GENERAL TERMS AND CONDITIONS FOR INDEGENOUS SOURCES**31. COUNTERFEIT PARTS:**

MIDHANI requires its supplier to take steps to eliminate the counterfeit (or) suspect counterfeit materials/ parts/ components. We define Counterfeit work as items that are, or contain, unlawful or unauthorized reproductions, substitutions or alterations that have been knowingly mismarked, misidentified or otherwise misrepresented to be an authentic, unmodified material/ parts/ component from the original manufacturer. Unlawful or unauthorized substitution includes used items represented as new or the false identification of Grade, Serial number / Heat number, Lot number and date code or performance characteristics/Test certificate/Coc / CoA. Suppliers of raw materials/ parts/ components are used fulfilling Purchase orders of MIDHANI LTD. Distributors shall only purchase materials/ components directly from original manufacturers.

32. TRADE PRACTICES:

Supplier will, at all times, refrain from engaging in any illegal, unfair or deceptive trade practices or unethical business practices. Supplier shall at its expense obtain any and all permits, licences, authorizations, and/or certificates that may be required in any jurisdiction or by any regulatory or administrative agency in connection with its activities hereunder. Supplier shall ensure that its employees are aware of:

- Their contribution to product or service conformity
- Their contribution to product safety, and
- Their contribution to the importance of ethical behaviour.

PROCEDURE TO BE FOLLOWED FOR SUBMISSION OF TENDER
(In Separate Sealed Covers)

ENVELOPE NO.1:

PART – I “TECHNO- COMMERCIAL BID”

ENQUIRY NO. MDN/PUR/18230021/LT/047/23-24

DATE: 14.06.2023

DUE DATE: 07.07.2023 AT 10:30 HRS.

To,
DGM (I/C PURCHASE)
MIDHANI, HYDERABAD - 500 058.

NAME OF THE TENDERER:

ENVELOPE NO.2:

PART - II “PRICE BID”

ENQUIRY NO. MDN/PUR/18230021/LT/047/23-24

DATE: 14.06.2023

To,
DGM (I/C PURCHASE)
MIDHANI, HYDERABAD - 500 058.

NAME OF THE TENDERER:

PLEASE PUT ALL THE TWO ENVELOPES IN A BIGGER SIZE ENVELOPE:

ENVELOPE NO: 3 (BOTH THE ENVELOPE No. 1 & No. 2 TO BE PLACED IN THE ENVELOPE No. 3):

TENDER NO.

ENQUIRY NO. MDN/PUR/18230021/LT/047/23-24

DATE: 14.06.2023

DUE DATE: 07.07.2023 AT 10:30 HRS.

CONTENTS:

- 1) TECHNO-COMMERCIAL BID
- 2) PRICE BID

To,
DGM (I/C PURCHASE)
MISHRA DHATU NIGAM LIMITED
PO: KANCHANBAGH,
HYDERABAD - 500 058.

NAME OF THE TENDERER:

Annexure – IV

SPECIMEN FORMS OF

BANK GUARANTEES

1. BG FORMAT IN LIEU OF EMD
2. FORM OF BANK GUARANTEE IN LIEU OF SECURITY DEPOSIT
3. PERFORMANCE BANK GUARANTEE

BANK GUARANTEE FOR EARNEST MONEY DEPOSIT

1. WHEREAS MISHRA DHATU NIGAM LIMITED (A GOVERNMENT OF INDIA ENTERPRISE) PO KANCHANBAGH, HYDERABAD (hereinafter referred as “ The Owner / Company” which expression shall unless repugnant to the subject or context includes its legal representatives, successors and assigns) has issued tender paper vide its Tender No: _____ for supply of _____ (herein after called “the said tender”) to M/s. _____ (herein after called “the said Tenderer(s)” which expression shall unless repugnant to the subject or context includes their legal representatives, successors and assigns) and as per terms and conditions of the said tender, the tenderer shall submit a Bank Guarantee for Rs./USD _____ towards earnest money in lieu of cash.

2. WE (Bank Name and Address) (herein after called the bank) do hereby undertake to pay the amount due and payable under this Guarantee without any demur merely on a demand from the company stating that in the opinion of the company, which is final and binding, the amount claimed is due because of any withdrawal of the tender or any material alteration to the tender after the opening of the tender by way of any loss or damage caused or would be caused or suffered by the company by reason of any breach by the said tenderer(s) of any of the terms and conditions contained in the said tender or failure to accept the Letter of Intent / Agreement or that the amount covered under this Guarantee is forfeited. Any such demand made on the bank by the owner shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs./USD _____.

3. We undertake to pay to the Company any money so demanded notwithstanding any dispute or disputes raised by the tenderer(s) in any suit or proceeding pending before any office, court or tribunal relating thereto, our liability under this present guarantee being absolute and unequivocal. The payment so made by us under this bond shall be a valid discharge of our liability for payment thereunder. Our liability to pay is not dependant or conditional on the owner proceeding against the tenderer.

4. The guarantee herein contained shall not be determined or affected or suspended by the liquidation or winding up, dissolution or change of constitution or insolvency of the said tenderer(s) but shall in all respect and for all purposes be binding and operative until payment of all money due or liabilities under the said tender are fulfilled.

5. WE (Bank Name and Address) further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the finalization of the said tender and that it shall continue to be enforceable till the said tender is finally decided and order placed on the successful tenderer(s) and /or till all the dues of the company under/or by virtue of the said tender have been fully paid and its claims satisfied or discharged or till a duly authorized officer of the company certifies that the terms and conditions of the said tender have been fully and properly carried out by the said tender(s) or till date: _____ whichever is earlier and accordingly discharges the guarantee.

6. That the Owner/Company will have full liberty without reference to us and without affecting this guarantee to postpone for any time or from time to time, the exercise of any of the power of the owner under the tender.

7. We (Bank Name and Address), lastly undertake not to revoke this guarantee during its currency except with the previous consent of the company in writing. We further undertake to keep this Guarantee renewed from time to time on the request of the Tenderer(s).

8. Notwithstanding anything contained herein before, our liability shall not exceed Rs./USD _____ towards earnest money in lieu of cash and shall remain in force till (date). Unless a demand or claim under this Guarantee is made on us within three months from the date of expiry i.e., _____ we shall be discharged from all the liabilities under this guarantee.

Date: _____ (Bank Name and Address)

Signature of duly

Authorized person

On behalf of the Bank

With seal & signature code

FORM OF BANK GUARANTEE IN LIEU OF SECURITY DEPOSIT

1. This deed of guarantee executed onday of by
.....

(Name and Address of the Bank)

the Bank hereinafter called Bank (which term shall mean and include its successors and assigns wherever the context so admits) in favour of M/s. MISHRA DHATU NIGAM LIMITED., a government of India Enterprise incorporated and registered as a company under the Companies Act, 1956, having its registered office at P.O. Kanchanbagh, Hyderabad – 500 058, state of A.P. India, herein after referred to as the “purchaser” (which terms shall mean and include its successors in office and assigns).

2. In consideration of M/s. Mishra Dhatu Nigam Limited (Purchaser) having agreed to exempt hereinafter called the said Contractor(s) (which term shall mean and include its successors assigns and legal representatives) from the demand under the terms and conditions of Purchase / Work Order No. dated for(hereinafter called the said agreement) of Earnest Money / Security Deposit/ Defect Liability deposit for the due fulfillment by the said Contractor(s) of the terms and conditions contained in the said agreement on production of a bank guarantee for Rs.....(Rupees..... only), we (name of the bank, address) (hereinafter referred to as “The Bank”) at the request of Contractor(s) do hereby undertake to pay Purchaser an amount not exceeding Rs against any losses or damage caused to or suffered or would be caused to or suffered Purchaser by reason of any breach by the said Contractor(s) of any of the terms and conditions contained in the said agreement.
3. We (Bank) do hereby unconditionally and irrevocably agree and undertake to pay to Purchaser the amounts due and payable under this Guarantee without any demur, merely on a demand from Purchaser stating that the amount claimed is due by way of loss or damage caused to or would be caused to on suffered by Purchaser by reason of breach by the said agreement or by reason of the contractor(s) failure to perform the said agreement. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this Guarantee shall be restricted to an amount not exceeding Rs
4. We undertake to pay Purchaser and money so demanded notwithstanding any dispute or disputes by the contractor(s) / supplier(s) in any suit or proceedings pending before any court of tribunal relating thereto, our liability under this present being absolute and unequivocal. The payment so made by us under this Guarantee shall be valid discharge of our liability for payment thereunder and the contractor(s) shall have not claim against us for making such payment.

5. We (Bank) further agree that the guarantee herein contained shall remain in full force and affect during the period that would be taken for the performance of the said Agreement and that it shall continue to be enforceable till all the dues of Purchase under or by virtue of the said Agreement have been fully paid and its claims satisfied or discharges or till Purchaser certifies that the terms and conditions of the said Agreement have been fully and properly carried out by the said contractor(s) and accordingly discharges this guarantee. Provided that if Purchaser together with the Contractor seeks an extension of terms of the Guarantee, such extension shall be granted by the Bank and the guarantee shall be in full force till the expiry of such extended period.
6. We (Bank) further agree with Purchaser that Purchaser shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said agreement or to extend time of performance by the said contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by purchaser against the said Contractor(s) and to forebear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation of extension being granted to the said contractor(s) or for any forbearance, act or omission on the part of Purchaser or any indulgence by Purchaser to the said contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties would but for this provisions, have effect of so relieving us.
7. It shall not be necessary for Purchaser to proceed against the contractor before proceeding against the Bank and the guarantee herein contained shall be enforceable against the Bank notwithstanding any security which Purchaser may have obtained or obtains from the contractor.
8. This guarantee shall not be discharged due to the change in the constitution of the Bank or the contractor(s).
9. We (Bank) lastly undertake not to revoke this guarantee during its currency except with the previous consent of Purchase in writing.
10. Our liability is limited to a sum not exceeding Rs unless a claim is made on us in writing on or before (3 months beyond the date of delivery / completion as specified in the contract) we shall be discharged from liability under this guarantee.

In witness whereof these presents are executed at on the date, month and year first herein above written.

FOR AND ON BEHALF OF THE BANK WITHIN NAMED

BANK GUARANTEE TOWARDS PERFORMANCE BANK GUARANTEE

This Deed of Guarantee executed on..... Day of..... by..... Bank. hereinafter called the "Guarantor" (which term shall mean and include its successors, assigns and legal representatives, where the context so admits) in favour of M/s. MISHRA DHATU NIGAM LIMITED, a Government of India Enterprise incorporated and registered as a Company under the Companies Act, 1956, having its registered office at P.O. Kanchanbagh, Hyderabad - 500 058, State of A.P. INDIA, hereinafter referred to as the "Purchaser", (which term shall mean and include its successors and assigns).

WHEREAS the Purchase Order No: MDN/PUR/..... (*Indicate both the order Numbers*) Dated..... has been entered into between the Purchaser and M/s..... a company incorporated and registered under the Laws of by which the company is permitted to manufacture and sell certain products, and having its registered office situated at hereinafter referred to as the SUPPLIER (which term shall mean and include its successors, assigns and legal representatives) for the supply of (*Indicate the list of Items which are replaced/repared*) as fully described in the aforesaid Purchase Order.

AND WHEREAS it has been agreed under the terms and conditions of the aforesaid Purchase Order that the Purchaser shall make balance payment to the Supplier of(amount) in words (.....) representing **10%** of the total value of the repaired and replaced parts in the Purchase Orders on final acceptance of the and on furnishing a Guarantee from a Bank acceptable to the Purchaser by the Supplier towards satisfactory performance of the supplied.

AND WHEREAS the Guarantor has, as per the terms and conditions of the aforesaid Purchase Order, agreed to stand guarantee for the amount of ten per cent of the balance payment in favour of the Supplier and the Guarantor is acceptable to the Purchaser.

NOW THIS DEED witnesses that, in pursuance of the terms and conditions of the aforesaid Purchase Order and in consideration of the payment of representating **10%** of the total value of the repaired and replaced parts in the Purchase Orders agreed to be made to the Supplier by the Purchaser, the Guarantor do hereby agree and undertake to indemnify the Purchaser and keep the purchaser indemnified to the extent of a sum not exceeding the said sum of (Amount) (In Words) against any damage or loss that may be suffered by the Purchaser by reason of non-fulfillment of or breach any of the terms and conditions of the Purchase Order by the supplier, and the guarantor hereby undertaken to pay on demand and without any demur to the purchaser any sum unconditionally and irrevocably not exceeding the sum of (Amount) (In Words) as may be demanded by the Purchaser's General Manager (Commercial) or Representative of the purchaser as the damages or loss that the purchaser may have suffered by reasons of non-fulfillment of any of the terms and conditions of the Purchase Order by the Supplier, and Guarantor hereby covenants with the Purchaser as follows:

1. That the decision of the General Manager (Commercial) or Representative of the Purchaser as to whether the said installation under the Purchase Order gives satisfactory performance or not and as to the amount of damages suffered by the Purchaser on account of the unsatisfactory performance of the said installation under the Purchase Order shall be conclusive, final and binding on the Bank.
2. That the Guarantee herein contained shall remain in full force and effect till the Purchaser certifies in writing that the terms and conditions of the said Purchase Order have been fully and properly carried out by the said Supplier and accordingly discharges the Guarantee. Unless a demand for claim under this Guarantee is made on the Bank in writing on or before, the Bank shall be discharged from all liabilities under this Guarantee thereafter, provided that if the Purchaser, together with the Supplier, seeks an extension of the term of the Guarantee, such extension shall be granted by the Bank and the Guarantee shall be in full force and effect till the expiry of such extended period.
3. That the Purchaser shall have the fullest liberty, without affecting in any way the liability of the Bank under this Guarantee or Indemnity, from time to time to vary any of the terms and conditions of the said Purchase Order or to extend its performance by the said Supplier as provided or to postpone, for any time and from time to time, any of the powers exercisable by it against the said Supplier and either to enforce or forbear from enforcing any of the terms and conditions governing the said Purchase Order, and the said Bank shall not be released from its liability under these presents by any exercise by the Purchaser of the liberty with reference to matters aforesaid or by reason of time being given to the said Supplier or any other forbearance, act or omission on the part of the Purchaser or any indulgence by the Purchaser to the said Supplier or of any other matter or thing whatsoever which, under the law relating to sureties, would, but for this provision, have the effect of so releasing the Bank from its liability.
4. It shall not be necessary for the Purchaser to proceed against the Supplier before proceeding against the Bank and the Guarantee herein contained shall be enforceable against the Bank notwithstanding any security which the Purchaser may have obtained or obtain from the Supplier.
5. The Bank lastly undertakes not to revoke this Guarantee during its currency, except with the previous consent of the Purchaser in writing, and agrees that any change in the constitution of the said Supplier or the said Bank shall not discharge the Bank's liability hereunder.

In witness whereof these presents are executed at the date, month and year, first herein above written.

FOR & ON BEHALF OF THE BANK WITHIN NAMED

UNDERTAKING (to be submitted by the Bidder along with Integrity Pact)

Date:

To,

PURCHASE DEPARTMENT,
MISHAR DHATU NIGAM LIMITED,
KANCHANBAGH, HYDERABAD – 58.

Sub: Procurement of _____ (Item description)

Ref: Tender no. & date: _____

- * -

- ¶ We (The Bidder / Contractor) confirm acceptance and compliance with the Integrity Pact in letter and spirit.
- ¶ We (The Bidder / Contractor) confirm that the Integrity Pact is signed without any variation (or) modification.
- ¶ We (The Bidder / Contractor) agree that Integrity Pact is deemed as part of NIT / Contract and we are bound by its provisions for the entire Pact duration as per Section. 9 of the enclosed Integrity Pact format.
- ¶ In case, if we (The Bidder / Contractor) fails to honour the above conditions, MIDHANI shall have absolute right to take action as per Section. 3 of the enclosed Integrity Pact format.

Yours faithfully,

(BIDDER)

INTEGRITY PACT

Between

Mishra Dhatu Nigam Limited (MIDHANI) hereinafter referred to as “**The Principal**”,
and

..... hereinafter referred to as “**The Bidder/**
Contractor”

Preamble

The Principal intends to award, under laid down organizational procedures, contract/s for.....The Principal values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness / transparency in its relations with its Bidder(s) and / or Contractor(s).

In order to achieve these goals, the Principal will appoint Independent External Monitors (IEMs) who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

Section 1 – Commitments of the Principal

- (1) The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:-
 - a. No employee of the Principal, personally or through family members, will in connection with the tender for , or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
 - b. The Principal will, during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential / additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.
 - c. The Principal will exclude from the process all known prejudiced persons.
- (2) If the Principal obtains information on the conduct of any of its employees which is a criminal offence under the IPC/PC Act, or if there be a substantive suspicion in this regard, the Principal will inform the Chief Vigilance Officer and in addition can initiate disciplinary actions.

Section 2 – Commitments of the Bidder(s)/ Contractor(s)

- (1) The Bidder(s)/ Contractor(s) commit themselves to take all measures necessary to prevent corruption. The Bidder(s)/ Contractor(s) commit themselves to observe the following principles during participation in the tender process and during the contract execution.
 - a. The Bidder(s)/ Contractor(s) will not, directly or through any other person or firm, offer, promise or give to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.

- b. The Bidder(s)/ Contractor(s) will not enter with other Bidders into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.
 - c. The Bidder(s)/ Contractor(s) will not commit any offence under the relevant IPC/PC Act; further the Bidder(s)/ Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
 - d. The Bidder(s)/Contractor(s) of foreign origin shall disclose the name and address of the Agents/representatives in India, if any. Similarly the Bidder(s)/Contractor(s) of Indian Nationality shall furnish the name and address of the foreign principals, if any. Further details as mentioned in the "Guidelines on Indian Agents of Foreign Suppliers" shall be disclosed by the Bidder(s)/Contractor(s). Further, as mentioned in the Guidelines all the payments made to the Indian agent/representative have to be in Indian Rupees only. Copy of the "Guidelines on Indian Agents of Foreign Suppliers" is enclosed.
 - e. The Bidder(s)/ Contractor(s) will, when presenting their bid, disclose any and all payments made, are committed to or intend to make to agents, brokers or any other intermediaries in connection with the award of the contract.
 - f. Bidder(s) /Contractor(s) who have signed the Integrity Pact shall not approach the Courts while representing the matter to IEMs and shall wait for their decision in the matter.
- (2) The Bidder(s)/ Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

Section 3 - Disqualification from tender process and exclusion from future contracts

If the Bidder(s)/Contractor(s), before award or during execution has committed a transgression through a violation of Section 2, above or in any other form such as to put their reliability or credibility in question, the Principal is entitled to disqualify the Bidder(s)/Contractor(s) from the tender process or take action as per the procedure mentioned in the Purchase Policy, MIDHANI and as per "Guidelines on Debarment of firms from Bidding" issued by Procurement Policy Division, Ministry of Finance, Department of Expenditure, Government of India from time to time (current OM date 02.11.2021). Copy of "Guidelines on Banning of Business dealing" is enclosed.

Section 4 – Compensation for Damages

- (1) If the Principal has disqualified the Bidder(s) from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover the damages equivalent to Earnest Money Deposit/ Bid Security.
- (2) If the Principal has terminated the contract according to Section 3, or if the Principal is entitled to terminate the contract according to Section 3, the Principal shall be entitled to demand and recover from the Contractor liquidated damages of the Contract value or the amount equivalent to Performance Bank Guarantee.

Section 5 – Previous transgression

- (1) The Bidder declares that no previous transgressions occurred in the last three years with any other Company in any country conforming to the anti-corruption approach or with any Public Sector Enterprise in India that could justify his exclusion from the tender process.
- (2) If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or action can be taken as per the procedure mentioned in "Purchase policy MIDHANI".

Section 6 – Equal treatment of all Bidders / Contractors / Subcontractors

- (1) In case of Sub-contracting, the Principal Contractor shall take the responsibility of the adoption of Integrity Pact by the Sub-contractor. In case of subcontract (only when the contract provide for sub contracting) the clause is applicable.
- (2) The Principal will enter into agreements with identical conditions as this one with all Bidders and Contractors.
- (3) The Principal will disqualify from the tender process all bidders who do not sign this Pact or violate its provisions.

Section 7 – Criminal charges against violating Bidder(s) / Contractor(s) / Subcontractor(s)

If the Principal obtains knowledge of conduct of a Bidder, Contractor or Subcontractor, or of an employee or a representative or an associate of a Bidder, Contractor or Subcontractor which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the same to the Chief Vigilance Officer.

Section 8 – Independent External Monitor

- (1) The Principal appoints competent and credible Independent External Monitor for this Pact after approval by Central Vigilance Commission. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.
- (2) The Monitor is not subject to instructions by the representatives of the parties and performs his/her functions neutrally and independently. The Monitor would have access to all Contract documents, whenever required. It will be obligatory for him / her to treat the information and documents of the Bidders/Contractors as confidential. He/ she reports to the C&MD MIDHANI.
- (3) The Bidder(s)/Contractor(s) accepts that the Monitor has the right to access without restriction to all Project documentation of the Principal including that provided by the Contractor. The Contractor will also grant the Monitor, upon his/her request and demonstration of a valid interest, unrestricted and unconditional access to their project documentation. The same is applicable to Sub-contractors.
- (4) The Monitor is under contractual obligation to treat the information and documents of the Bidder(s)/ Contractor(s)/ Sub-contractor(s) with confidentiality. The Monitor has also signed declarations on 'Non-Disclosure of Confidential Information' and of 'Absence of Conflict of Interest'. In case of any conflict of interest arising at a later date, the IEM shall inform C&MD MIDHANI and recuse himself / herself from that case.
- (5) The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor the option to participate in such meetings.
- (6) As soon as the Monitor notices, or believes to notice, a violation of this agreement, he/she will so inform the Management of the Principal and request the Management to discontinue or take corrective action, or to take other relevant action. The monitor can in this regard submit non-binding recommendations. Beyond this, the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.
- (7) The Monitor will submit a written report to the C&MD MIDHANI within 8 to 10 weeks from the date of reference or intimation to him by the Principal and, should the occasion arise, submit proposals for correcting problematic situations.
- (8) If the Monitor has reported to the C&MD MIDHANI, a substantiated suspicion of an offence under relevant IPC/ PC Act, and the C&MD MIDHANI has not, within the reasonable time taken visible action to proceed against such offence or reported it to the Chief Vigilance Officer, the Monitor may also transmit this information directly to the Central Vigilance

Commissioner.

- (9) The word '**Monitor**' would include both singular and plural.

Section 9 – Pact Duration

This Pact begins when both parties have legally signed it. It expires for the Contractor 12 months after the last payment under the contract, and for all other Bidders 6 months after the contract has been awarded. Any violation of the same would entail disqualification of the bidders and exclusion from future business dealings.

If any claim is made / lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified above, unless it is discharged / determined by C&MD MIDHANI.

Section 10 – Other provisions

- (1) This agreement is subject to Indian Law. Place of performance and jurisdiction is the Registered Office of the Principal, i.e. Hyderabad.
- (2) Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.
- (3) If the Contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.
- (4) Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.
- (5) Issues like Warranty / Guarantee etc. shall be outside the purview of IEMs.

Section 11 - Independent Monitors

The Central Vigilance Commission (CVC) has appointed the following Independent External Monitors (IEMs) to oversee the implementation of the Integrity Pact for MIDHANI:

Address of IEMs are as follows:

- a. Shri Anand Deep, IRS (Retd.),
117/363, H-1, next to Gurdwara Pandu Nagar,
Kanpur, U.P. 208005
e-mail: anand.deep117@gmail.com
- b. Shri P. Mallikarjuna Rao, IFS (Retd.),
72, Prashasan Nagar,
Jubilee Hills 83, Lodi Estate,
Hyderabad – 500096
e-mail: pmkrao72@gmail.com

(For & On behalf of the Principal)

(For & On behalf of Bidder/ Contractor)

(Office Seal)

(Office Seal)

Place -

Date

Witness 1:

(Name &

Address)

Witness 2:

(Name & Address)

GUIDELINES FOR INDIAN AGENTS OF FOREIGN SUPPLIERS

- 1.0 There shall be compulsory registration of agents for all Global (Open) Tender and Limited Tender. An agent who is not registered with MIDHANI shall apply for registration in the registration form .
- 1.1 Registered agents will file an authenticated Photostat copy duly attested by a Notary Public/Original certificate of the principal confirming the agency agreement and giving the status being enjoyed by the agent and the commission/ remuneration/ salary/ retainer ship being paid by the principal to the agent before the placement of order by MIDHANI.
- 1.2 Wherever the Indian representatives have communicated on behalf of their principals and the foreign parties have stated that they are not paying any commission to the Indian agents, and the Indian representatives working on the basis of salary or as retainer, a written declaration to this effect should be submitted by the party (i.e. Principal) before finalizing the order.
- 2.0 Disclosure of particulars of agents/ representatives in India, if any.**
- 2.1 Tenderers of Foreign nationality shall furnish the following details in their offers:
 - 2.1.1 The Bidder(s)/ Contractor(s) of foreign origin shall disclose the name and address of the agents/ representatives in India if any and the extent of authorization and authority given to commit the Principals. In case the agent/ representative be a foreign Company, it shall be confirmed whether it is existing Company and details of the same shall be furnished.
 - 2.1.2 The amount of commission/ remuneration included in the quoted price(s) for such agents/ representatives in India.
 - 2.1.3 Confirmation of the Tenderer that the commission/ remuneration, if any, payable to his agents/ representatives in India, may be paid by MIDHANI in Indian Rupees only.
- 2.2 Tenderers of Indian Nationality shall furnish the following details in their offers:
 - 2.2.1 The name and address of the foreign principals, if any, indicating their nationality as well as their status, i.e. whether manufacturer or agents of manufacturer holding the Letter of Authority of the Principal specifically authorizing the agent to make an offer in India in response to tender either directly or through the agents/ representatives.
 - 2.2.2 The amount of commission/ remuneration included in the price (s) quoted by the Tenderer for himself.
 - 2.2.3 Confirmation of the foreign principals of the Tenderer that the commission/ remuneration, if any, reserved for the Tenderer in the quoted price(s), may be paid by MIDHANI in India in equivalent Indian Rupees on satisfactory completion of the Project or supplies of Stores and Spares in case of operation items.
- 2.3 In either case, in the event of contract materializing, the terms of payment will provide for payment of the commission/ remuneration, if any payable to the agents/ representatives in India in Indian Rupees on expiry of 90 days after the discharge of the obligations under the contract.
- 2.4 Failure to furnish correct and detailed information as called for in paragraph 2.0 above will render the concerned tender liable to rejection or in the event of a contract materializing, the same liable to termination by MIDHANI. Besides this there would be a penalty of banning business dealings with MIDHANI or damage or payment of a named sum.

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GUIDELINES ON DEBARMENT OF FIRMS FROM BIDDING - MIDHANI

Ref: Procurement Policy Division, Ministry of Finance, Department of Expenditure, Government of India OM dated 02.11.2021.

1. The Guidelines are classified under following two types:
 - (i) In cases where debarment is proposed to be limited to a single Ministry, the appropriate Orders can be issued by that Ministry itself, thereby banning all its business dealing with the debarred firm.
 - (ii) Where it is proposed to extend the debarment beyond the jurisdiction of the particular Ministry i.e. covering to all central Ministries/ Departments, the requisite Orders shall be issued by Department of Expenditure (DoE), Ministry of Finance (MoF).

Definitions

2. **Firm:** The term 'firm' or 'bidder' has the same meaning for the purpose of these Guidelines, which includes an individual or person, a company, a cooperative society, a Hindu undivided family and an association or body of persons, whether incorporated or not, engaged in trade or business.

3. **Allied firm:** All concerns which come within the sphere of effective influence of the debarred firms shall be treated as allied firms. In determining this, the following factors may be taken into consideration:

- a. Whether the management is common;
- b. Majority interest in the management is held by the partners or directors of banned/ suspended firm;
- c. Substantial or majority shares are owned by the banned/ suspended firm and by virtue of this it has a controlling voice.
- d. Directly or indirectly controls, or is controlled by or is under common control with another bidder.
- e. All successor firms will also be considered as allied firms.

4. The terms "banning of firm", 'suspension', 'Black-Listing' etc. convey the same meaning as of "Debarment".

Debarment by a Single Ministry/ Department

5. Orders for Debarment of a firm(s) shall be passed by a Ministry/ Department/ organizations, keeping in view of the following:

- a. A bidder or any of its successors may be debarred from participating in any procurement process for a period not exceeding two years.
- b. Firms will be debarred if it is determined that the bidder has breached the code of integrity as per Rule 175 of GFRs 2017.
- c. A bidder can also be debarred for any actions or omissions by the bidder other than violation of code of integrity, which in the opinion of the Ministry/department, warrants debarment, for the reasons like supply of sub-standard material, non-supply of material, abandonment of works, sub-standard quality of works, failure to abide "Bid securing Declaration" etc.
- d. It shall not be circulated to other Ministries/Departments. It will only be applicable to all the attached/ subordinate offices, Autonomous bodies, Central Public sector Undertakings (CPSUs) etc. of the Ministry/Department issuing the debarment order.
- e. The concerned Ministry/Department before issuing the debarment order against a firm must ensure that reasonable opportunity has been given to the concerned firm to represent against such debarment (including personal hearing, if requested by firm).
- f. Secretary of Ministry/Department may nominate an officer at the rank of joint secretary/Additional secretary as competent authority to debar the firms.

- g. Ministry/ Department that issued the order of debarment can also issue an order for revocation of debarment before the period of debarment is over, if there is adequate justification for the same. Ordinarily, the revocation of the order before expiry of debarred period should be done with approval of secretary concerned of Ministry/Department.
- h. The Ministry/Department will maintain list of debarred firms, which will also be displayed on its website.
- i. Debarment is an executive function and should not be allocated to vigilance department.

6. Code of integrity as contained in Rule 175 of the GFRs is reproduced as under:

No official of the procuring entity or a bidder shall act in contravention of the courts which includes

(i) Prohibition of

- (a) making offer, solicitation or acceptance of bribe, reward or gift on any material benefit, either directly or indirectly, in exchange for an unfair advantage in the procurement process or to otherwise influence the procurement process.
- (b) any omission or mis-representation that may mislead or attempt to mislead so that financial or other benefit may be obtained or an obligation avoided.
- (c) any collusion, bid rigging or anti competitive behavior that may impair the transparency, fairness and the progress of the procurement process.
- (d) improper use of information provided by the procuring entity to the bidder with an intent to gain unfair advantage in the procurement process or for personal gain.
- (e) any financial or business transaction between the bidder and any official of the procuring entity related to tender or execution process of the contract which can affect the decision of the procuring entity directly or indirectly.
- (f) any coercion or any threat to impair or harm, directly or indirectly, any party or its property to influence the procurement process.
- (g) obstruction of any investigation or auditing of a procurement process.
- (h) making false declaration or providing false information for participation in a tender process or to secure a contract.

(ii) Disclosure of Conflict of interest.

(iii) Disclosure by the bidder of any previous transgressions made in respect of the provisions of the sub-clause (i) with an entity in any country during the last three years or of being debarred by any other procuring entity.

7. It is possible that the firm may be debarred concurrently by more than one ministry/department.

8. Ministries/Departments at their option may also delegate powers to debar bidders to their CPSUs, attached offices/Autonomous bodies etc. in such cases, broad principles for debarment in para 5 as above are to be kept in mind. Debarment by such bodies like CPSUs etc., shall be applicable only for the procurements made by such bodies.

9. Similarly, Government e-Market place (GeM) can also debar bidders upto two years on its portal.

10. In case of debarments under para 8 as above, revocation the debarment orders before expiry of debarred period should be done only with the approval of chief executive officer of concerned CPSUs etc.,

Debarment across all ministries/Departments

11. Where a Ministry/Department is of the view that business dealings with a particular firm should be banned across all the ministries/departments by debarring the firm from taking part in any bidding procedure floated by the central govt. ministries/departments, the ministry/department concerned, should after obtaining the approval of the secretary concerned, forward to DoE a self contained note setting out all the facts of the case and the justification for the proposed debarment, along with all the relevant papers and documents. DoE will issue the necessary orders after satisfying itself that proposed debarment across all the Ministries/Departments is in accordance with rule 151 of GFRs, 2017. This scrutiny is intended to ensure uniformity of treatment in all cases.

12. The firm will remain in suspension mode (i.e., debarred) during the interim period till the final decision taken by DoE, only in the ministry/department forwarding such proposal.

13. Ministry/Department before forwarding the proposal to DoE must ensure that reasonable opportunity has been given to the concerned firm to represent against such debarment (including personal hearing, if requested by firm). If DoE realizes that sufficient opportunity has not been given to the firm to represent against the debarment, such debarment requests received from ministries/department shall be rejected.

14. DoE can also give additional opportunity, at their option, to firm to represent against proposed debarment. DoE can also take suo-moto action to debar the firms in certain circumstances.

15. No contract of any kind whatsoever shall be placed on the debarred firm, including its allied firms by any Ministries/Departments/Attached/Subordinate offices of the Government of India including autonomous body, CPSUs etc. after the issue of a debarment order.

16. DoE will maintain list of such debarred firms, which will be displayed on Central Public Procurement Portal.

Revocation of Orders

17. An order for debarment passed shall be deemed to have been automatically revoked on the expiry of that specified period and it will not be necessary to issue a specific formal order revocation.

18. A debarment order may be revoked before the expiry of the order, by the competent authority, if it is of the opinion that the disability already suffered is adequate in the circumstances of the case or for any other reason.

Other provisions (Common to both types of debarment)

19. No contract of any kind whatsoever shall be placed to debarred firm including its allied firms after the issue of a debarment order by the Ministry/ Department. Bids from only such firms shall be considered for placement of contract, which are neither debarred on the date of opening of tender (first bid, normally called as technical bid, in case of two packet/two stage bidding) nor debarred on the date of contract. Even in the cases of risk purchase, no contract should be placed on such debarred firms.

20. In case, any debar firm has submitted the bid, the same will be ignored. In case such firm is lowest (L-1), next lowest firm shall be considered as L-1. Bid security submitted by such debarred firms shall be returned to them.

21. Contracts concluded before the issue of the debarment order shall, not be affected by the debarment orders.

22. The department shall be automatically extended to all its allied firms. In case of joint venture/consortium is debarred all partners will also stand debarred for the period specified in debarment order. The names of partners should be clearly specified in the "Debarment Order".

23. Debarment in any manner does not impact any other contractual or other legal rights of the procuring entities.

24. The period debarment shall start from the date of issue of debarment order.

25. The order of debarment will indicate the reason(s) in brief that lead to debarment of the firm.

26. Ordinarily, the period of debarment should not be less than six months.

27. In case of shortage of suppliers in a particular group, such debarments may also hurt the interest of procuring entities. In such cases, endeavor should be to pragmatically analyze the circumstances, try to reform the supplier and may get a written commitment from the supplier that its performance will improve.

28. All Ministries/Departments must align their existing debarment Guidelines in conformity with these Guidelines within two months of issued of these guidelines. Further, bidding documents must also be suitably amended, if required.

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No. P-45021/2/2017-PP (BE-II)
Government of India
Ministry of Commerce and Industry
Department for Promotion of Industry and Internal Trade
(Public Procurement Section)

Udyog Bhawan, New Delhi
Dated: 16th September, 2020

To

All Central Ministries/Departments/CPSUs/All concerned

ORDER

Subject: Public Procurement (Preference to Make in India), Order 2017– Revision; regarding.

Department for Promotion of Industry and Internal Trade, in partial modification [Paras 2, 3, 5, 10 & 13] of Order No.P-45021/2/2017-B.E.-II dated 15.6.2017 as amended by Order No.P-45021/2/2017-B.E.-II dated 28.05.2018, Order No.P-45021/2/2017-B.E.-II dated 29.05.2019 and Order No.P-45021/2/2017-B.E.-II dated 04.06.2020, hereby issues the revised 'Public Procurement (Preference to Make in India), Order 2017" dated 16.09.2020 effective with immediate effect.

Whereas it is the policy of the Government of India to encourage 'Make in India' and promote manufacturing and production of goods and services in India with a view to enhancing income and employment, and

Whereas procurement by the Government is substantial in amount and can contribute towards this policy objective, and

Whereas local content can be increased through partnerships, cooperation with local companies, establishing production units in India or Joint Ventures (JV) with Indian suppliers, increasing the participation of local employees in services and training them,

Now therefore the following Order is issued:

1. This Order is issued pursuant to Rule 153 (iii) of the General Financial Rules 2017.
2. **Definitions:** For the purposes of this Order:

'Local content' means the amount of value added in India which shall, unless otherwise prescribed by the Nodal Ministry, be the total value of the item procured (excluding net domestic indirect taxes) minus the value of imported content in the item (including all customs duties) as a proportion of the total value, in percent.

'Class-I local supplier' means a supplier or service provider, whose goods, services or works offered for procurement, meets the minimum local content as prescribed for 'Class-I local supplier' under this Order.

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'Class-II local supplier' means a supplier or service provider, whose goods, services or works offered for procurement, meets the minimum local content as prescribed for *'Class-II local supplier'* but less than that prescribed for *'Class-I local supplier'* under this Order.

'Non - Local supplier' means a supplier or service provider, whose goods, services or works offered for procurement, has local content less than that prescribed for *'Class-II local supplier'* under this Order.

'L1' means the lowest tender or lowest bid or the lowest quotation received in a tender, bidding process or other procurement solicitation as adjudged in the evaluation process as per the tender or other procurement solicitation.

'Margin of purchase preference' means the maximum extent to which the price quoted by a *'Class-I local supplier'* may be above the L1 for the purpose of purchase preference.

'Nodal Ministry' means the Ministry or Department identified pursuant to this order in respect of a particular item of goods or services or works.

'Procuring entity' means a Ministry or department or attached or subordinate office of, or autonomous body controlled by, the Government of India and includes Government companies as defined in the Companies Act.

'Works' means all works as per Rule 130 of GFR- 2017, and will also include *'turnkey works'*.

3. Eligibility of *'Class-I local supplier'*/ *'Class-II local supplier'*/ *'Non-local suppliers'* for different types of procurement

(a) In procurement of all goods, services or works in respect of which the Nodal Ministry / Department has communicated that there is sufficient local capacity and local competition, only *'Class-I local supplier'*, as defined under the Order, shall be eligible to bid irrespective of purchase value.

(b) Only *'Class-I local supplier'* and *'Class-II local supplier'*, as defined under the Order, shall be eligible to bid in procurements undertaken by procuring entities, except when Global tender enquiry has been issued. In global tender enquiries, *'Non-local suppliers'* shall also be eligible to bid along with *'Class-I local suppliers'* and *'Class-II local suppliers'*. In procurement of all goods, services or works, not covered by sub-para 3(a) above, and with estimated value of purchases less than Rs. 200 Crore, in accordance with Rule 161(iv) of GFR, 2017, Global tender enquiry shall not be issued except with the approval of competent authority as designated by Department of Expenditure.

(c) For the purpose of this Order, works includes Engineering, Procurement and Construction (EPC) contracts and services include System Integrator (SI) contracts.

3A. Purchase Preference

(a) Subject to the provisions of this Order and to any specific instructions issued by the Nodal Ministry or in pursuance of this Order, purchase preference shall be given to 'Class-I local supplier' in procurements undertaken by procuring entities in the manner specified here under.

(b) In the procurements of goods or works, which are covered by para 3(b) above and which are divisible in nature, the 'Class-I local supplier' shall get purchase preference over 'Class-II local supplier' as well as 'Non-local supplier', as per following procedure:

- i. Among all qualified bids, the lowest bid will be termed as L1. If L1 is 'Class-I local supplier', the contract for full quantity will be awarded to L1.
- ii. If L1 bid is not a 'Class-I local supplier', 50% of the order quantity shall be awarded to L1. Thereafter, the lowest bidder among the 'Class-I local supplier' will be invited to match the L1 price for the remaining 50% quantity subject to the Class-I local supplier's quoted price falling within the margin of purchase preference, and contract for that quantity shall be awarded to such 'Class-I local supplier' subject to matching the L1 price. In case such lowest eligible 'Class-I local supplier' fails to match the L1 price or accepts less than the offered quantity, the next higher 'Class-I local supplier' within the margin of purchase preference shall be invited to match the L1 price for remaining quantity and so on, and contract shall be awarded accordingly. In case some quantity is still left uncovered on Class-I local suppliers, then such balance quantity may also be ordered on the L1 bidder.

(c) In the procurements of goods or works, which are covered by para 3(b) above and which are not divisible in nature, and in procurement of services where the bid is evaluated on price alone, the 'Class-I local supplier' shall get purchase preference over 'Class-II local supplier' as well as 'Non-local supplier', as per following procedure:

- i. Among all qualified bids, the lowest bid will be termed as L1. If L1 is 'Class-I local supplier', the contract will be awarded to L1.
- ii. If L1 is not 'Class-I local supplier', the lowest bidder among the 'Class-I local supplier', will be invited to match the L1 price subject to Class-I local supplier's quoted price falling within the margin of purchase preference, and the contract shall be awarded to such 'Class-I local supplier' subject to matching the L1 price.
- iii. In case such lowest eligible 'Class-I local supplier' fails to match the L1 price, the 'Class-I local supplier' with the next higher bid within the margin of purchase preference shall be invited to match the L1 price and so on and contract shall be awarded accordingly. In case none of the 'Class-I local supplier' within the margin of purchase preference matches the L1 price, the contract may be awarded to the L1 bidder.

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- (d) "Class-II local supplier" will not get purchase preference in any procurement, undertaken by procuring entities.

3B. Applicability in tenders where contract is to be awarded to multiple bidders -
In tenders where contract is awarded to multiple bidders subject to matching of L1 rates or otherwise, the 'Class-I local supplier' shall get purchase preference over 'Class-II local supplier' as well as 'Non-local supplier', as per following procedure:

- a) In case there is sufficient local capacity and competition for the item to be procured, as notified by the nodal Ministry, only Class I local suppliers shall be eligible to bid. As such, the multiple suppliers, who would be awarded the contract, should be all and only 'Class I Local suppliers'.
- b) In other cases, 'Class II local suppliers' and 'Non local suppliers' may also participate in the bidding process along with 'Class I Local suppliers' as per provisions of this Order.
- c) If 'Class I Local suppliers' qualify for award of contract for at least 50% of the tendered quantity in any tender, the contract may be awarded to all the qualified bidders as per award criteria stipulated in the bid documents. However, in case 'Class I Local suppliers' do not qualify for award of contract for at least 50% of the tendered quantity, purchase preference should be given to the 'Class I local supplier' over 'Class II local suppliers'/'Non local suppliers' provided that their quoted rate falls within 20% margin of purchase preference of the highest quoted bidder considered for award of contract so as to ensure that the 'Class I Local suppliers' taken in totality are considered for award of contract for at least 50% of the tendered quantity.
- d) First purchase preference has to be given to the lowest quoting 'Class-I local supplier', whose quoted rates fall within 20% margin of purchase preference, subject to its meeting the prescribed criteria for award of contract as also the constraint of maximum quantity that can be sourced from any single supplier. If the lowest quoting 'Class-I local supplier', does not qualify for purchase preference because of aforesaid constraints or does not accept the offered quantity, an opportunity may be given to next higher 'Class-I local supplier', falling within 20% margin of purchase preference, and so on.
- e) To avoid any ambiguity during bid evaluation process, the procuring entities may stipulate its own tender specific criteria for award of contract amongst different bidders including the procedure for purchase preference to 'Class-I local supplier' within the broad policy guidelines stipulated in sub-paras above.

4. **Exemption of small purchases:** Notwithstanding anything contained in paragraph 3, procurements where the estimated value to be procured is less than Rs. 5 lakhs shall be exempt from this Order. However, it shall be ensured by procuring entities that procurement is not split for the purpose of avoiding the provisions of this Order.
5. **Minimum local content:** The 'local content' requirement to categorize a supplier as 'Class-I local supplier' is minimum 50%. For 'Class-II local supplier', the 'local content' requirement is minimum 20%. Nodal Ministry/ Department may prescribe only a higher

percentage of minimum local content requirement to categorize a supplier as 'Class-I local supplier'/ 'Class-II local supplier'. For the items, for which Nodal Ministry/ Department has not prescribed higher minimum local content notification under the Order, it shall be 50% and 20% for 'Class-I local supplier'/ 'Class-II local supplier' respectively.

6. **Margin of Purchase Preference:** The margin of purchase preference shall be 20%.
7. **Requirement for specification in advance:** The minimum local content, the margin of purchase preference and the procedure for preference to Make in India shall be specified in the notice inviting tenders or other form of procurement solicitation and shall not be varied during a particular procurement transaction.
8. **Government E-marketplace:** In respect of procurement through the Government E-marketplace (GeM) shall, as far as possible, specifically mark the items which meet the minimum local content while registering the item for display, and shall, wherever feasible, make provision for automated comparison with purchase preference and without purchase preference and for obtaining consent of the local supplier in those cases where purchase preference is to be exercised.
9. **Verification of local content:**
 - a. The 'Class-I local supplier'/ 'Class-II local supplier' at the time of tender, bidding or solicitation shall be required to indicate percentage of local content and provide self-certification that the item offered meets the local content requirement for 'Class-I local supplier'/ 'Class-II local supplier', as the case may be. They shall also give details of the location(s) at which the local value addition is made.
 - b. In cases of procurement for a value in excess of Rs. 10 crores, the 'Class-I local supplier'/ 'Class-II local supplier' shall be required to provide a certificate from the statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content.
 - c. Decisions on complaints relating to implementation of this Order shall be taken by the competent authority which is empowered to look into procurement-related complaints relating to the procuring entity.
 - d. Nodal Ministries may constitute committees with internal and external experts for independent verification of self-declarations and auditor's/ accountant's certificates on random basis and in the case of complaints.
 - e. Nodal Ministries and procuring entities may prescribe fees for such complaints.
 - f. False declarations will be in breach of the Code of Integrity under Rule 175(1)(i)(h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law.

- g. A supplier who has been debarred by any procuring entity for violation of this Order shall not be eligible for preference under this Order for procurement by any other procuring entity for the duration of the debarment. The debarment for such other procuring entities shall take effect prospectively from the date on which it comes to the notice of other procurement entities, in the manner prescribed under paragraph 9h below.
- h. The Department of Expenditure shall issue suitable instructions for the effective and smooth operation of this process, so that:
 - i. The fact and duration of debarment for violation of this Order by any procuring entity are promptly brought to the notice of the Member-Convener of the Standing Committee and the Department of Expenditure through the concerned Ministry /Department or in some other manner;
 - ii. on a periodical basis such cases are consolidated and a centralized list or decentralized lists of such suppliers with the period of debarment is maintained and displayed on website(s);
 - iii. in respect of procuring entities other than the one which has carried out the debarment, the debarment takes effect prospectively from the date of uploading on the website(s) in the such a manner that ongoing procurements are not disrupted.

10. Specifications in Tenders and other procurement solicitations:

- a. Every procuring entity shall ensure that the eligibility conditions in respect of previous experience fixed in any tender or solicitation do not require proof of supply in other countries or proof of exports.
- b. Procuring entities shall endeavour to see that eligibility conditions, including on matters like turnover, production capability and financial strength do not result in unreasonable exclusion of 'Class-I local supplier'/ 'Class-II local supplier' who would otherwise be eligible, beyond what is essential for ensuring quality or creditworthiness of the supplier.
- c. Procuring entities shall, within 2 months of the issue of this Order review all existing eligibility norms and conditions with reference to sub-paragraphs 'a' and 'b' above.

d. Reciprocity Clause

- i. When a Nodal Ministry/Department identifies that Indian suppliers of an item are not allowed to participate and/ or compete in procurement by any foreign government, due to restrictive tender conditions which have direct or indirect effect of barring Indian companies such as registration in the procuring country, execution of projects of specific value in the procuring country etc., it shall provide such details to all its procuring entities including CMDs/CEOs of PSEs/PSUs, State Governments and other procurement agencies under their administrative control and GeM for appropriate reciprocal action.

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- ii. Entities of countries which have been identified by the nodal Ministry/Department as not allowing Indian companies to participate in their Government procurement for any item related to that nodal Ministry shall not be allowed to participate in Government procurement in India for all items related to that nodal Ministry/ Department, except for the list of items published by the Ministry/ Department permitting their participation.
 - iii. The stipulation in (ii) above shall be part of all tenders invited by the Central Government procuring entities stated in (i) above. All purchases on GeM shall also necessarily have the above provisions for items identified by nodal Ministry/ Department.
 - iv. State Governments should be encouraged to incorporate similar provisions in their respective tenders.
 - v. The term 'entity' of a country shall have the same meaning as under the FDI Policy of DPIIT as amended from time to time.
- e. Specifying foreign certifications/ unreasonable technical specifications/ brands/ models in the bid document is restrictive and discriminatory practice against local suppliers. If foreign certification is required to be stipulated because of non-availability of Indian Standards and/or for any other reason, the same shall be done only after written approval of Secretary of the Department concerned or any other Authority having been designated such power by the Secretary of the Department concerned.
- f. "All administrative Ministries/Departments whose procurement exceeds Rs. 1000 Crore per annum shall notify/ update their procurement projections every year, including those of the PSEs/PSUs, for the next 5 years on their respective website."

10A. Action for non-compliance of the Provisions of the Order: In case restrictive or discriminatory conditions against domestic suppliers are included in bid documents, an inquiry shall be conducted by the Administrative Department undertaking the procurement (including procurement by any entity under its administrative control) to fix responsibility for the same. Thereafter, appropriate action, administrative or otherwise, shall be taken against erring officials of procurement entities under relevant provisions. Intimation on all such actions shall be sent to the Standing Committee.

11. Assessment of supply base by Nodal Ministries: The Nodal Ministry shall keep in view the domestic manufacturing / supply base and assess the available capacity and the extent of local competition while identifying items and prescribing the higher minimum local content or the manner of its calculation, with a view to avoiding cost increase from the operation of this Order.

12. Increase in minimum local content: The Nodal Ministry may annually review the local content requirements with a view to increasing them, subject to availability of sufficient local competition with adequate quality.

13. Manufacture under license/ technology collaboration agreements with phased indigenization: While notifying the minimum local content, Nodal Ministries may make special provisions for exempting suppliers from meeting the stipulated local content if the product is being manufactured in India under a license from a foreign manufacturer who holds intellectual property rights and where there is a technology collaboration agreement / transfer of technology agreement for indigenous manufacture of a product developed abroad with clear phasing of increase in local content.

13A. In procurement of all goods, services or works in respect of which there is substantial quantity of public procurement and for which the nodal ministry has not notified that there is sufficient local capacity and local competition, the concerned nodal ministry shall notify an upper threshold value of procurement beyond which foreign companies shall enter into a joint venture with an Indian company to participate in the tender. Procuring entities, while procuring such items beyond the notified threshold value, shall prescribe in their respective tenders that foreign companies may enter into a joint venture with an Indian company to participate in the tender. The procuring Ministries/Departments shall also make special provisions for exempting such joint ventures from meeting the stipulated minimum local content requirement, which shall be increased in a phased manner.

14. Powers to grant exemption and to reduce minimum local content: The administrative Department undertaking the procurement (including procurement by any entity under its administrative control), with the approval of their Minister-in-charge, may by written order, for reasons to be recorded in writing,

- a. reduce the minimum local content below the prescribed level; or
- b. reduce the margin of purchase preference below 20%; or
- c. exempt any particular item or supplying entities from the operation of this Order or any part of the Order.

A copy of every such order shall be provided to the Standing Committee and concerned Nodal Ministry / Department. The Nodal Ministry / Department concerned will continue to have the power to vary its notification on Minimum Local Content.

15. Directions to Government companies: In respect of Government companies and other procuring entities not governed by the General Financial Rules, the administrative Ministry or Department shall issue policy directions requiring compliance with this Order.

16. Standing Committee: A standing committee is hereby constituted with the following membership:

Secretary, Department for Promotion of Industry and Internal Trade—Chairman
Secretary, Commerce—Member
Secretary, Ministry of Electronics and Information Technology—Member
Joint Secretary (Public Procurement), Department of Expenditure—Member
Joint Secretary (DPIIT)—Member-Convenor

The Secretary of the Department concerned with a particular item shall be a member in respect of issues relating to such item. The Chairman of the Committee may co-opt technical experts as relevant to any issue or class of issues under its consideration.

17. Functions of the Standing Committee: The Standing Committee shall meet as often as necessary, but not less than once in six months. The Committee

- a. shall oversee the implementation of this order and issues arising therefrom, and make recommendations to Nodal Ministries and procuring entities.
- b. shall annually assess and periodically monitor compliance with this Order
- c. shall identify Nodal Ministries and the allocation of items among them for issue of notifications on minimum local content
- d. may require furnishing of details or returns regarding compliance with this Order and related matters
- e. may, during the annual review or otherwise, assess issues, if any, where it is felt that the manner of implementation of the order results in any restrictive practices, cartelization or increase in public expenditure and suggest remedial measures
- f. may examine cases covered by paragraph 13 above relating to manufacture under license/ technology transfer agreements with a view to satisfying itself that adequate mechanisms exist for enforcement of such agreements and for attaining the underlying objective of progressive indigenization
- g. may consider any other issue relating to this Order which may arise.

18. Removal of difficulties: Ministries /Departments and the Boards of Directors of Government companies may issue such clarifications and instructions as may be necessary for the removal of any difficulties arising in the implementation of this Order.

19. Ministries having existing policies: Where any Ministry or Department has its own policy for preference to local content approved by the Cabinet after 1st January 2015, such policies will prevail over the provisions of this Order. All other existing orders on preference to local content shall be reviewed by the Nodal Ministries and revised as needed to conform to this Order, within two months of the issue of this Order.

20. Transitional provision: This Order shall not apply to any tender or procurement for which notice inviting tender or other form of procurement solicitation has been issued before the issue of this Order.



(Rakesh Gupta)

Director

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**DECLARATION TO BE GIVEN BY VENDORS ALONG WITH BID (MANDATORY) ON THEIR LETTER HEAD
IN CASE THE VALUE OF PROCUREMENT IS MORE THAN 5 LAKHS**

Tender Ref No: With reference to the above mentioned RFP/Tender, we hereby confirm that we have read the Public Procurement (Preference to Make in India) Order No. P-45021/2/2017-PP (BE-II) revision dated 16/9/2020 and the updates and the percentage of local (Indian) content in the offered items/service is _____ and the place/places of value addition done is/are _____.

Signature with seal

Note: In cases of procurement for value in excess of 10 Crores the Class-I /Class-II local supplier shall be required to provide a certificate from statutory auditor or cost auditor (In case of companies) or from a practicing cost accountant or practicing chartered accountant (In respect of suppliers other than companies) giving the percentage of local content.