| S. No. | Specifications | Quantity |
|---|---|---|
| 1. | **Medium Frequency Solid State Generator 160KW/2.5KHZ**<br><br>**A-Specifications**<br>○ Input Power Supply = 380V± 10%,3Phase,50 HZ<br>○ Rated M.F Out power =160KW<br>○ Rated out put Frequency = 2500HZ +5%, -20%<br>○ Induction Coil terminal Voltage =350-375V<br>○ Connection of M.F. capacitor and induction coil =secondary side of M.F. transformer<br><br>M.F Transformer;<br>○ Primary Voltage =750V<br>○ Secondary Voltage =375V<br>○ Type of oscillator =Parallel<br>○ Line power factor =0.98<br>○ M.F. Generator Efficiency =>97%<br>○ Type of cooling =water (DMW)<br><br>Note:<br>i. the coil will be operated under a vacuum of $10^{-1}$ mbar<br>ii. material of crucible = Graphite<br>iii. volume of crucible = 30Litre<br><br>**B-Indications on operating panel**<br><br>i. Input AC Voltage 3 phase.<br>ii. Input AC Current 3 phase<br>iii. DC Voltage<br>iv. DC Current<br>v. MF Voltage<br>vi. MF Current<br>vii. Frequency of MF voltage<br>viii. MF Power<br>ix. Pressure and flow of cooling –Water for control and safety.<br>x. Temperature of cooling water for control and safety.<br>xi. MF Generator ON/OFF indications<br>xii. Emergency OFF push Button<br>xiii. Range of Matching coil (if possible)<br>xiv. Supplier should provide electrical connection diagram and schematic drawings of all PCBs for repair/maintenance purpose in future.<br>xv. In corporation of any other indication necessary for the convenience of operator according to the diagram will be highly appreciated.<br>xvi. Language: English | 01. |

C-Inductions Coil Dimensions

- Inner dia =444 ± 2.5mm
- Outer dia =480 ± 2.5mm
- Height =515 ± 5mm
- Material =99.99% of electrolytic grade copper.
- Sketch of coil & crucible attached

D – Operating Requirements

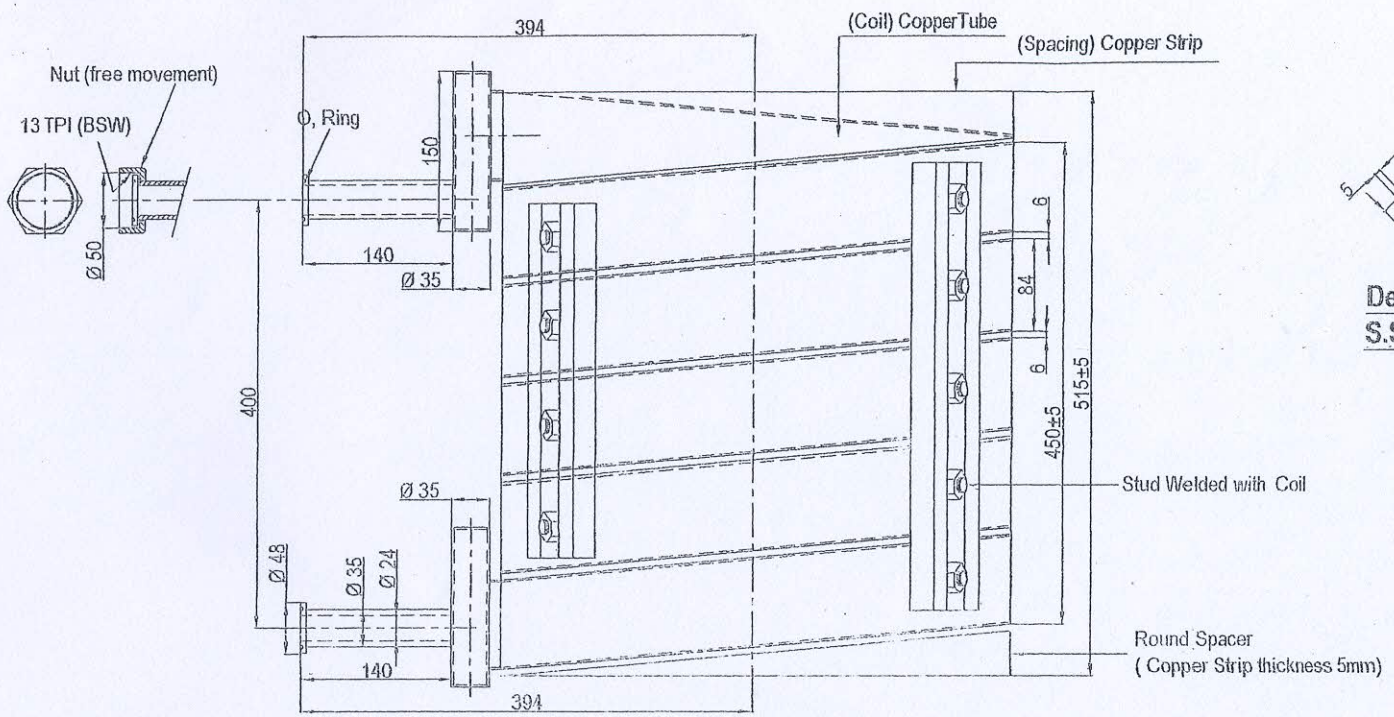
- Elevation = < 1000 Mtr
- Ambient Temp. =45 °C max
- Relative Humidity = < 50 %
- Cooling water temperature = 25-35 °C

2. Spares:

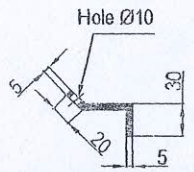
| | | |
|---|---|---|
| i. | Main PCB | 01NO. |
| ii. | SCR converter | 15NOs. |
| iii. | SCR Inverter /IGBT | 10NOs. |
| iv. | Cooling assembly for SCR (Converter =6Nos., Inverter =04Nos) | 10NOs. |
| v. | Main circuit Breaker | 02 NOs |
| vi. | Converter snubber capacitor | 06NOs |
| vii. | Converter snubber resistor | 06NOs |
| viii. | Inverter snubber capacitor | 04NOs |
| ix. | Inverter snubber resistor | 04NOs |
| x. | Pulse transformer PCB for converter SCR firing (if separate from main PCB) | 10NOs |
| xi. | Pulse transformer PCB for inverter SCR firing | 04NOs |
| xii. | DC inductor | 01NO |
| xiii. | MF Matching Transformer | 01NO |
| xiv. | MF capacitor | 04NOs |
| xv. | Induction coil as mentioned at 1-C | 01NO |

N.B: Supplier should provide Electrical connection and PCB schematic diagram before starting fabrication work

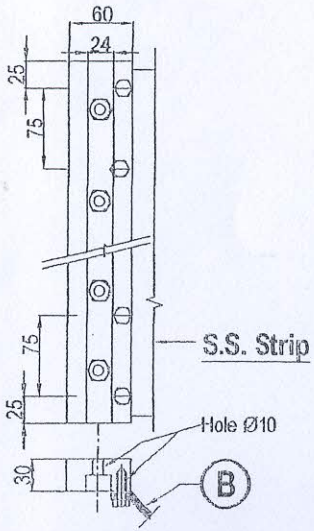
4:15



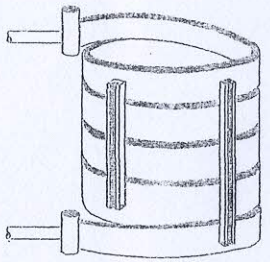

Front View



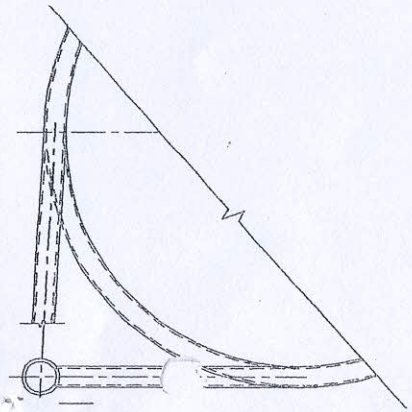

Detail -B.
S.S. Strip

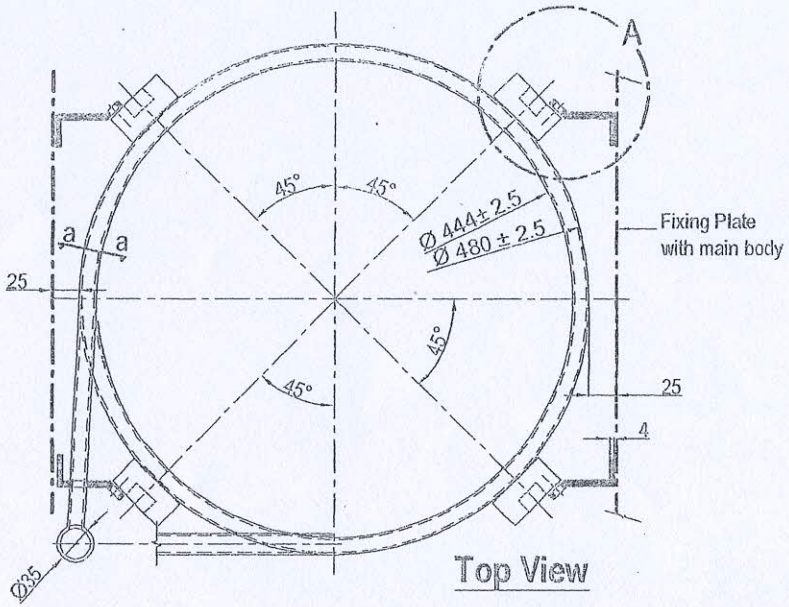



Detail -A
Backalite strip 04 Nos.

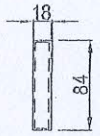


3D View





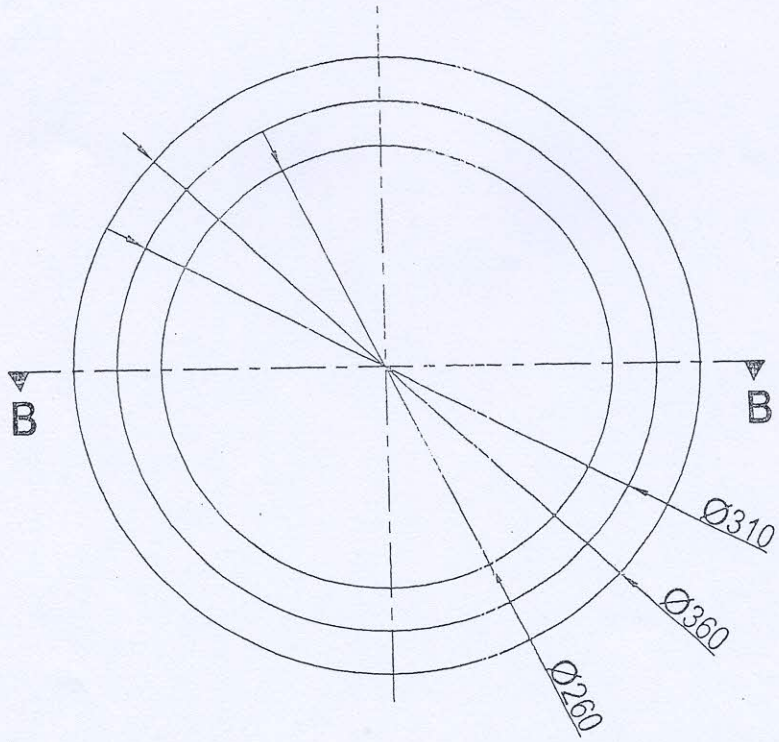

Top View

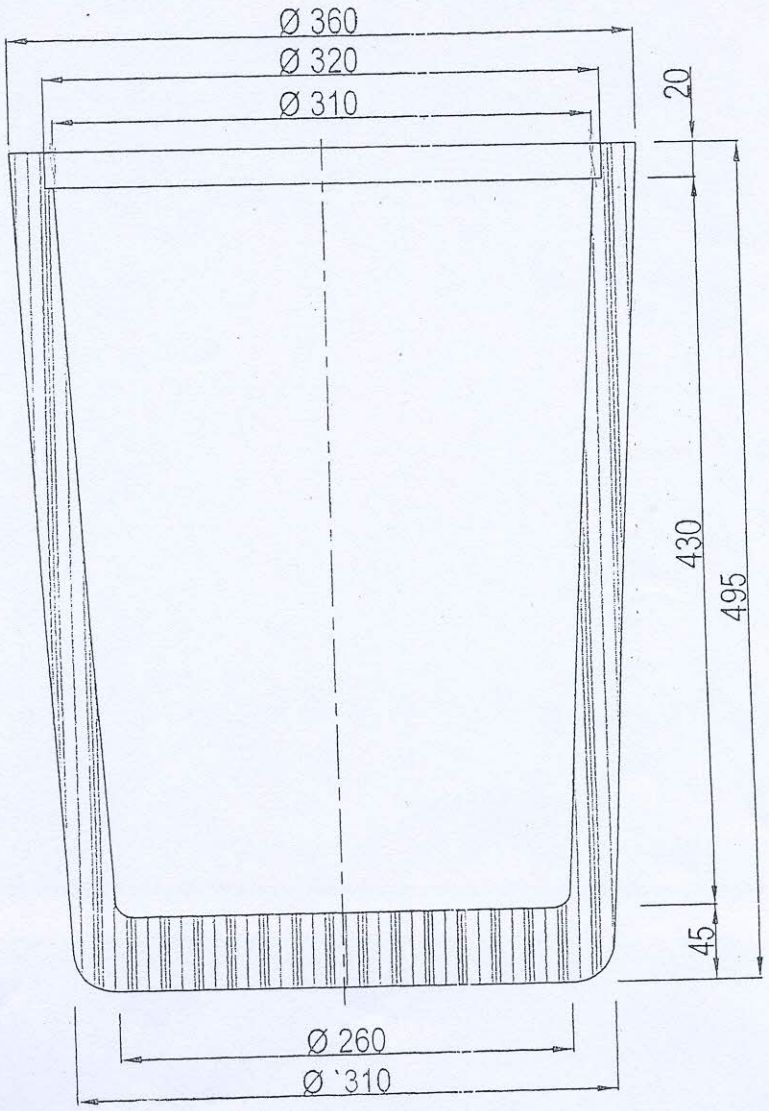



Sec.a-a
(Copper Tube)

| Tolerances as below other wise mentioned | | | | | | |
|---|---|---|---|---|---|---|
| General Toleraces(mm) | /< 3 | ⩽3 AND ⩽30 | ⩽6 AND ⩽30 | ⩽30 AND ⩽120 | ⩽120 AND ⩽400 | ⩽400 AND ⩽1000 |
| Machinnig (Din 7168 Part 1) | ± 0.1 | ± 0.1 | ± 0.2 | ± 0.3 | ± 0.5 | ± 0.8 |
| Fabrication (Din 8570 Part 1) | ± – | ± – | ± 0.1 | ± 0.1 | ± 0.1 | ± 0.2 |

| COPPER COIL | Dated: 18-04-2017 |
|---|---|




Section at B-B
Graphite Crucible