**DESIGN SHEET OF A TRANSFORMER**

**USING MATLAB & GUI**

**TO:** Click or tap here to enter text.

**Project of**

**SUDIP BABU DHAKAL and his team**

**Design sheet:**

KVA = Click or tap here to enter text. VA

Phase = Click or tap here to enter text.

Frequency= Click or tap here to enter text. Hz

Winding Type= Click or tap here to enter text.

Line Voltage H.V = Click or tap here to enter text. V

Phase Voltage H.V = Click or tap here to enter text. V

Line Voltage L.V. = Click or tap here to enter text. V

Phase Voltage L.V. = Click or tap here to enter text. V

Line Current H.V. = Click or tap here to enter text. A

Line Current L.V. = Click or tap here to enter text. A

Type of cooling – ONAN

**Core**

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | Output constant | K | Click or tap here to enter text. |
| 2 | Voltage per turn | Et | Click or tap here to enter text. V |
| 3 | Circumscribing circle diameter | D | Click or tap here to enter text. mm |
| 4 | Number of steps |  | Click or tap here to enter text. |
| 5 | Dimensions |  |  |
|  |  | a | Click or tap here to enter text. mm |
|  |  | b | Click or tap here to enter text. mm |
| 6 | Net iron area | Ai | Click or tap here to enter text. m2 |
| 7 | Flux density | Bm | Click or tap here to enter text. Wb/m2 |

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | Depth of yoke | Dy | Click or tap here to enter text. mm |
| 2 | Height of yoke | Hy | Click or tap here to enter text. mm |
| 3 | Net yoke area |  | Click or tap here to enter text. mm2 |
| 4 | Iron loss |  | Click or tap here to enter text. Watt |

**Windows**

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | Window space factor | Kw | Click or tap here to enter text. |
| 2 | Height of window | Hw | Click or tap here to enter text. mm |
| 3 | Width of window | Ww | Click or tap here to enter text. mm |
| 4 | Window area | Aw | Click or tap here to enter text. mm2 |

**Frame**

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | Distance between adjacent limbs | D | Click or tap here to enter text. mm |
| 2 | Height of frame | H | Click or tap here to enter text. mm |
| 3 | Width of frame | W | Click or tap here to enter text. mm |
| 4 | Depth of frame | Dy | Click or tap here to enter text. mm |

|  |  |  |  |
| --- | --- | --- | --- |
| S.N | Windings | L.V | H.V |
| 1 | Type of winding | Helical | Reinforced |
| 2 | Connection | Click or tap here to enter text. | Click or tap here to enter text. |
| 3 | Conductor | Copper | Copper |
|  | Width or Diameter | Click or tap here to enter text. mm | Click or tap here to enter text. mm |
|  | Thickness | Click or tap here to enter text. |  |
|  | Area | Click or tap here to enter text. mm2 | Click or tap here to enter text. mm2 |
|  | Number in parallel | Click or tap here to enter text. | Click or tap here to enter text. |
| 4 | Current density | Click or tap here to enter text. A/mm2 | Click or tap here to enter text. A/mm2 |
| 5 | Turns per phase | Click or tap here to enter text. | Click or tap here to enter text. |
| 6 | Coils total number | Click or tap here to enter text. | Click or tap here to enter text. |
| 8 | Height of winding | Click or tap here to enter text. | Click or tap here to enter text. |
| 9 | Depth of winding | Click or tap here to enter text. | Click or tap here to enter text. |
| 11 | Coils diameters inside | Click or tap here to enter text.mm, | Click or tap here to enter text. mm |
|  | outside | Click or tap here to enter text.mm, | Click or tap here to enter text. mm |
| 12 | Resistance referred to HV side | Click or tap here to enter text. |  |

**Tank**

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | Dimensions:  Height | Ht | Click or tap here to enter text. mm |
|  | Length | Lt | Click or tap here to enter text. mm |
|  | Width | Wt | Click or tap here to enter text. mm |
| 2 | Number of Tubes |  | Click or tap here to enter text. |
| 3 | Temperature rise |  | Click or tap here to enter text. |

**Impedance**

|  |  |  |
| --- | --- | --- |
| 1 | p.u resistance | Click or tap here to enter text. p.u |
| 2 | p.u reactance | Click or tap here to enter text. p.u |
| 3 | p.u impedance | Click or tap here to enter text.p.u |

**Losses**

|  |  |  |
| --- | --- | --- |
| 1 | Total core loss | Click or tap here to enter text. watt |
|  | Total copper loss | Click or tap here to enter text. watt |
| 3 | Total losses at full load | Click or tap here to enter text. watt |
| 4 | Efficiency at full load and unity p.f | Click or tap here to enter text. % |

Click or tap here to enter text.