



# TRANSWELD

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## T R A N S F O R M E R



# INTRODUCTION

The leading professionally run Transformer manufacturing company in Nepal

Transweld Nepal is one of the leading professionally run transformer manufacturing company in Nepal situated in the Kathmandu valley. The company's founder late Mr. J.B. Shrestha (Nepal's one of the senior most and highly experienced electrical engineer) established the transformer manufacturing unit in 1989 and later renamed and established as Transweld Nepal Pvt. Ltd. in 1995.

Transweld has a manufacturing capacity from 5 kVA to 2000 kVA of 11/33 kV distribution transformers as per the latest IEC 76, IS 2026 and other equivalent international standards. Transweld has already manufactured various rated distribution transformers and successfully installed all over Nepal including industries, hydropower, micro hydropowers, embassies, hotels, hospitals, trading companies, rural electrification, NEA electricity utilities, NEA repair and maintenance and other various sectors.



**20+ YEARS OF EXPERIENCE**  
SINCE 1995



**LATEST NEA STANDARD**



**2 YEARS WARRANTY**



**2 YEARS AFTER SALES SUPPORT**



## DESIGN

Transweld's designs are carefully prepared to meet stringent requirements of the prevailing standards. The company's guiding factor is to ensure long trouble-free service through special care in manufacturing and management process. The product is designed according to individual factors such as voltage, power, climate and many more, and meets the requirements of various tests.



## CORE

Transweld uses low loss, cold rolled grain oriented (CRGO) magnetic silicon steel sheets from internationally reputed brands. (CNC cut-to-size annealed cores with precise dimensions, burr-free edge for core integrity increasing the transformer's reliability.) The cores are then assembled. The assembled cores are tested for pre-no-load losses before the core-coil assembly process.

## AMORPHOUS CORE

**Amorphous core significantly reduces core losses which is about 65-75%.**

Transweld has started manufacturing Amorphous metal core type distribution transformers alongside the conventional silicon steel core type distribution transformers.

Amorphous metal exhibits a unique random molecular structure unlike the rigid grain structure of the silicon steel. This, in turn, enables easy magnetization & demagnetization, thereby reducing hysteresis loss. Further processing of amorphous metal in very thin lamination (approximately 1/10th of silicon steel lamination thickness) enables significant reduction in eddy current losses.



### Advantages of Amorphous Metal Transformers over Transformers with CRGO Silicon Steel:

- ✔ The thickness of Amorphous Metal is 0.025 mm against CRGO silicon sheet steel thickness 0.23-0.3 mm. Lesser in thickness in sheet results in lower eddy current loss
- ✔ Random molecular structure of amorphous metal causes less friction than CRGO when a magnetic field is applied. This allows easy magnetization and demagnetization significantly lowers hysteresis losses, thus amorphous core significantly reduces core losses which is about 65-75%
- ✔ Saves energy and therefore reduces greenhouse gases and other pollution
- ✔ Excellent option to reduce distribution losses and improve efficiency
- ✔ Superior electrical performance under harmonic condition. Possible to improve power quality and mitigate harmonics
- ✔ Lower temperature rise, slower deterioration of insulations and hence longer life
- ✔ Increase in use of power electronics has resulted in considerable amount of higher harmonics distortion in electrical power system.



## WINDING

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Transweld uses round enameled copper wire and triple paper covered rectangular copper strips to make HV / LV coils as required by the design. Latest HV and LV winding machines are used to wound coils. Special care is taken not to damage insulation of wires while wounding the coils.



## DRYING & TRANSFORMER OIL FILLING

The core-coil assembly are placed in an oven to improve insulation resistance and remove accumulated moisture. The dried core-coil assembly are tanked and filled with high quality, clean, dry and tested oil. (IEC 296 standard)

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## TANK FABRICATION & PAINTING

The tanks are fabricated from mild steel electrically welded suitable bracing and stiffeners are provided for robust construction. Enough cooling radiators made from corrugated fins are provided to maintain the temperature rise within specified limits. The inside walls are painted with primer and varnished while outer surface is painted with epoxy based zinc chromate primer and coats of enamel paint of dark grey shade. All tanks are pressure tested before leaving the fabrication shop of factory.



## TRANSFORMERS OIL

Transweld uses mineral oil made as per BS 148:1984 IEC 296 standard. The transformers oil shall be high quality, clean, and free from moisture.

## TAP CHANGER

Off-circuit 7 position tap changer is incorporated in the transformer to provide a constant output voltage to avoid fluctuation.

OLTC (On Load Tap Changer) can be provided upon customer requirement.

## ACCESSORIES

- ✔ HT & LT bushing
- ✔ Tap changer & drain valve
- ✔ Dehydrating breather
- ✔ Thermometer pocket
- ✔ Oil level indicator
- ✔ Lifting lugs & Earth terminal
- ✔ Name Plate
- ✔ Bi-direction wheels

## TESTING & QUALITY CONTROL

Every Transweld distribution transformer is produced under strict supervision as per ISO 9001:2008 quality management systems. Such process starts with strict inspection of every incoming material to final products by trained personnel. Every transformer has to undergo following measurement and tests prior to delivery (routine tests).

- ✔ Measurement of winding resistance
- ✔ Measurement of voltage ratio test
- ✔ Measurement of insulation resistance
- ✔ Measurement of no load loss, load loss and impedance
- ✔ Excitation current test
- ✔ Induced potential test
- ✔ Polarity and phase relation test
- ✔ Applied potential test
- ✔ Oil & leakage test



## MODE OF DELIVERY



## AFTER SALES SERVICES

Transweld transformers are backed by prompt post-sales service carried out by our after sales and service department managed by highly skilled and experienced technicians. Product service technicians visit the customers site annually to check the performance of the transformers. This service continues even after the warranty period. On call service is also provided.



# SOME OF OUR MAJOR CLIENTS




- World Trade Center, Tripureswor
- T.U. Teaching Hospital, Maharajgunj
- Rastriya Nachghar, Jamal
- New Military Hospital, New Road
- Rising Mall, Durbar Marg
- Lagankhel Bhawan, Lagankhel
- Club Himalayan, Nagarkot
- British Council, Lainchaur
- Indian Embassy, Lainchaur
- Namaste Complex, Gairidhara
- Lotse Mall, Gongabu Bus Park
- Shangrila Housing, Kathmandu
- Jagadamba Plastic Industries
- Hotel Arts, Thamel
- Marusin Sitaka Construction Japan
- The Fort, Nagarkot
- Kalinchowk Bhagwati Darshan Pvt. Ltd.
- Khetan Group Corporate Office, Hattisar
- Chabahil Plaza, Chabahil
- Bir Hospital, Ratna Park
- Nepal Medical Council, Bansbari
- Nepal Dairy
- National News Agency
- National Medical College, Birgunj
- Kathmandu Medical College, Sinamangal
- Heritage Plaza, Kamaladi
- Kathmandu Plaza, Kamaladi
- People Plaza, New Road
- Pashupati Plaza, New Road
- Nami College
- Rastriya Shava Griha, Pradarshani Marg
- The Comfort Housing
- Oriental Housing
- ANK Construction
- CBC Construction
- Municipality Of Various States
- Mahadev Khimti Nirwan Sewa
- Delight Electricals
- Royal Nirwan Sewa
- Hydro Energy Concern P. Ltd
- Sharma & Company P Ltd
- Sarit International

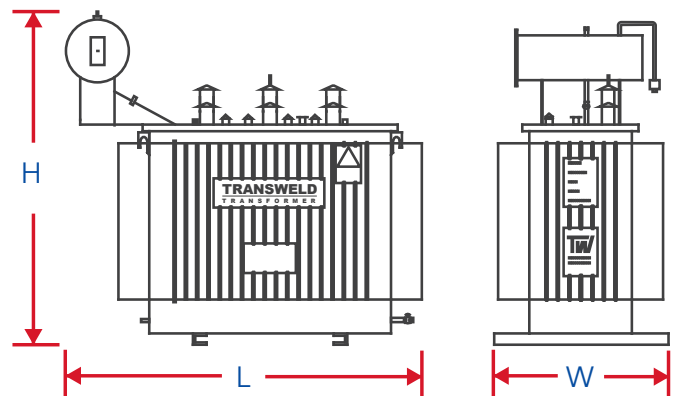
# STANDARD DIMENSION

The specification mentioned below cover core type, oil immersed, natural self cooled distribution transformers suitable for both outdoor and indoor installation.

Temperature Rise (Above Ambient Temperature)	
Top Oil	50°C
Windings	55°C

POWER KVA	PHASE	VOLTAGE SYSTEM 11000-400 V					VOLTAGE SYSTEM 33000-400 V					NO LOAD LOSS (W)		LOAD LOSS 75°C (W)	% IMPEDANCE
		LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	OIL (Ltrs)	WEIGHT (Kgs)	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	OIL (Ltrs)	WEIGHT (Kgs)	11KV	33KV		
25	3	970	600	1040	80	450	1450	650	1570	220	560	75	120	460	4
50	3	1000	600	1060	120	550	1470	670	1580	250	685	120	140	750	4
75	3	1030	710	2000	125	630	1480	700	1640	345	800	170	215	1000	4
100	3	1140	740	1140	200	845	1500	750	1680	410	1030	220	290	1210	4
125	3	1150	750	1150	220	940	1550	780	1720	450	1180	255	365	1430	4
150	3	1220	780	1270	250	1105	1570	800	1740	480	1230	295	445	1675	4
200	3	1290	850	1390	330	1335	1610	840	1830	510	1490	365	500	2100	4
250	3	1350	880	1410	350	1415	1690	910	1920	550	1560	455	700	2550	4
300	3	1380	890	1440	400	1610	1750	1015	1960	630	1830	550	730	3000	4
350	3	1410	920	1485	415	1790	1780	1030	1980	650	1860	650	900	3550	4
400	3	1430	935	1525	450	1920	1850	1060	2040	720	1990	745	960	4025	4
500	3	1650	1080	1860	530	2200	1940	1120	2080	760	2300	960	1100	5150	4
630	3	1670	1080	1880	650	2550	1980	1150	2130	810	2700	1200	1300	6800	4
800	3	1860	2300	2150	1200	3150	2140	2300	2200	1250	3300	1300	1400	11000	5
1000	3	2100	2500	2450	1300	3400	2350	2550	2500	1370	3650	1500	1600	13000	5
1250	3	2300	2700	2350	1350	3950	2500	2750	2640	1430	4310	1600	1700	14500	5
1600	3	2400	2650	2490	1380	4889	2550	2800	2680	1510	4870	2000	2100	17000	6.25
2000	3	2450	2800	2550	1440	4855	2600	2880	2770	1690	5950	2600	2700	20000	6.25

- \* Values of Dimensions, Weights and Volumes are approximate.
- \* Given Loss values are on the basis of current loss values provided by Nepal Electricity Authority.



SINCE 1995

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