

MV/LV Distribution Transformers

Oil Immersed, Ground Mounted
Frequency 50Hz - IEC Standard.
100kVA - 3150kVA Transformers

ELECTROMECH TRANSFORMERS ENERGISE TO BEGIN SAVE & GREENER WORLD

*Reduce No Load Loss
Increase life of operation
Lower Greenhouse Gas Emissions
Compliant to IEC standards &
Regulatory Requirements.*

STANDARD FEATURES :
*Oil Filling plug on the cover
Oil Level Indicator
Lifting Lugs on the top of the cover
Oil drain Valve
Buchholz Relay
Earthing Terminals
Rating Plate
Dehydrating breather
Conservator*

Standards : IEC 60076 and EU regulation No : 548/2014.

ELECTROMECH AUTOMATION & ENGINEERING LTD.

ELECTROMECH ENGINEERING SERVICES

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CONSTRUCTION :

Description

ELECTROMECH transformers are used to step down three phase high voltage to low voltage for power distribution, mainly for industrial applications & high-rise commercial & residential buildings. The transformers are designed for use in moderate climates and can be installed both outdoors and indoors. The transformers are manufactured in accordance with IEC 60076.

Core

The cores of the transformers are made of grain-oriented magnetic, cold-rolled silicon steel laminations with low losses.

Windings:

The windings of the transformers are made of high grade electrolytic copper or aluminium. The High Voltage windings are wound either with round, enamel insulated, or shaped, paper insulated wire. The Low Voltage windings are wound with shaped, paper insulated wire or foil. The winding construction is characterized by high dielectric strength with high resistance, to atmospheric surges and to the effects of short-circuits. Neutral points of the Low Voltage windings are brought to the tank cover.

Tap changer

The off-circuit tap changer is of a 5-position type connected on the High Voltage side with a handle located on the cover. The tap changer should be operated only when the transformer is deactivated. On Load tap changer's (OLTC) are available on request.

Insulating oil

The mineral oil with its electrical and chemical characteristics complies with the IEC Standards and is P.C.B. (Polychlorinated biphenyl's) free.

Tank and cover

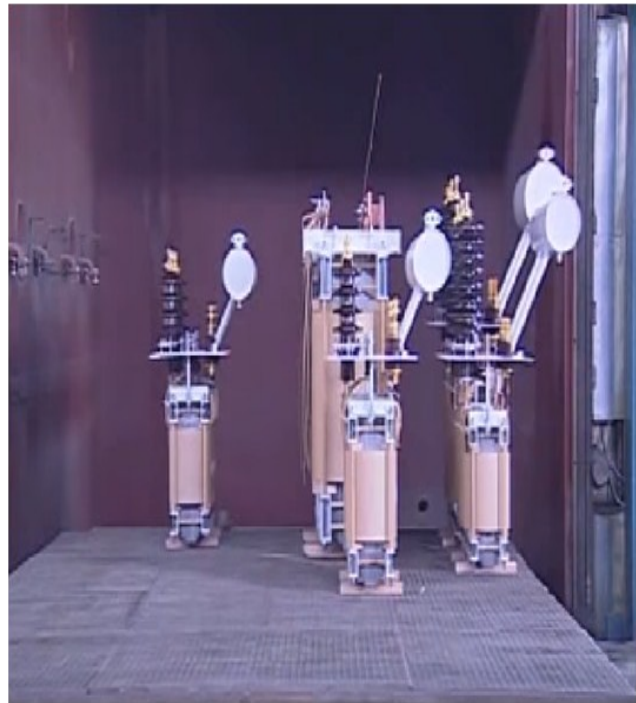
The cover is bolted to the tank frame. The transformer undercarriage is provided with bidirectional rollers movable to allow longitudinal and transverse movement on flat surfaces.

Painting and surface treatment

All metal parts are carefully sandblasted. The painting is made with a single coat of one pack epoxy paint. The finishing paint is made with two or three coats.

Vacuum Treatment

Drying and vacuum treatment takes place in a special oven, where the windings are heated electrically. The transformer is filled with oil while it is still under vacuum. In this way moisture and gases are effectively removed from the windings and oil.



Transformers in Heating Chamber

TECHNICAL SPECIFICATIONS OF CRGO USED IN TRANSFORMER :

Density	: 7.65 g/cm ³
Specific Resistance	: 45
Saturation Flux Density	: 2.03 Tesla
Typical Core Loss(1.4T)	: M4 Grade-0.7W/kg
	: M3 Grade-0.57W/kg
Thickness	: 0.27mm
Lamination Factor	: 0.97
Annealing Temperature	: 810 °C

TOTAL OWNERSHIP COST:
ELECTROMECH Transformers are low loss, high efficient, cost effective solution contributing to healthier world environment. May be our Transformers are marginally little expensive than other brands available but still it is cost effective in the long term & over the whole life. Therefore, **ELECTROMECH** Transformer shall be the Transformer of economic & engineering choice.

ROUTINE TESTS ARE CARRIED OUT:
 Our laboratory equipped with modern & precise measurement devices that are certified & calibrated according to the requirements of the standard ISO 9001:2008 Routine tests are:

- Winding Resistance Measurement;
- Measurement of voltage ratio & verification of the vector group;
- Measurement of Short Circuit Impedance & Load Loss;
- Measurement of No-Load Loss & current;
- Separate Source AC withstand voltage test or Power Frequency Test;
- Dielectric oil test.



Making Tank with special Care

ELECTROMECH Transformer Powering Customer

TECHNICAL DATA SHEET

KVA	Primary (V)	Secondary (V)	Vector Group	Impedance %	No Load Loss (W)	Load Loss (W) at 75°C	Total Weight (Kg)	Oil Weight (Litre)	Height (H) mm	Length (L) mm	Width (W) mm
100	11000	415	Dyn11	4	245	1700	650	180	1320	1000	630
160	11000	415	Dyn11	4	320	2412	900	220	1450	1050	880
200	11000	415	Dyn11	4	435	2880	975	230	1500	1120	930
250	11000	415	Dyn11	4	520	3265	1100	270	1580	1130	950
315	11000	415	Dyn11	4	580	4500	1250	350	1580	1200	970
400	11000	415	Dyn11	4	722	5420	1450	390	1620	1230	980
500	11000	415	Dyn11	5	865	6275	1725	425	1650	1240	1020
630	11000	415	Dyn11	5.5	920	7740	1970	500	1700	1360	1030
750	11000	415	Dyn11	6	1150	5088	2250	625	1850	1550	1120
800	11000	415	Dyn11	6	1300	9800	2575	650	2250	1700	1130
1000	11000	415	Dyn11	6	1650	11600	2850	800	2250	1850	1150
1250	11000	415	Dyn11	6.5	1820	12300	3725	1000	2250	2000	1200
1600	11000	415	Dyn11	6.5	2100	13275	4300	1200	2300	2000	1350
2000	11000	415	Dyn11	6.5	2650	16470	4750	1450	2500	2100	1500
2500	11000	415	Dyn11	7	3140	19700	5600	1800	2850	2200	1500
3150	11000	415	Dyn11	7	3420	22860	6350	2050	3000	2300	1700

POWER TRANSFORMERS (3MVA - 12MVA, upto 36kV):

The typical dimension, weights & other technical characteristics are given in the table for mineral oil immersed transformers completely with standard cooling system for the system voltage from 7.2kV to 36kV. Dimensions & weight would be different for other voltage, other characteristics of transformer or when it is immersed in another dielectric.

TECHNICAL DATA SHEET FOR POWER TRANSFORMER

KVA	Primary (V)	Secondary (V)	Impedance %	No Load Loss (kW)	Load Loss (kW) at 75°C	Total Weight (Kg)	Height (H) mm	Length(L) mm	Width(W) mm
4000	33000	11000	6	4.5	25	7900	2210	1690	1940
5000	33000	11000	6	5.50	31	9800	2760	2100	2420
6300	33000	11000	7.5	7	39	12350	3480	2650	3050
8000	33000	11000	4	8.9	44	15350	4905	3125	3275
10000	33000	11000	7.5	10.5	51	17860	4950	3150	3398
12500	33000	11000	7.8	12.6	60.5	20045	5055	3190	3430



RATED INSULATION LEVEL:

Rated Insulation Level (kV)	7.2	12	36
kV r.m.s 50Hz - 1 Mn.	20	28	70
kV B.I.L. 1,2/50μS	60	75	170

ELECTROMECH is the complete system provider for electrical system from 33kV to machine connections with the support & technical collaboration of Mitsubishi Electric Co. Japan, FRAKO Germany, DTM Turkey & Indelec France. Our resources, we call transformer people, switchgear people & automation people working hard day night to create smiling customer's and thus touch the dream of **ELECTROMECH**.