THE EGYPTIAN COMPANY FOR ELECTRICAL TRANSFORMERS

Distribution Transformer

More information call us
TEL:0238206540 -0238206541
Mobil: 01113599960 - 01033346235

www.tectrafoegypt.com
VISIT OUR WEBSITE

HISTORY

Since 10 years TEC TRAFO started works in repairing and maintenance field of distribution transformers under the name of (Almoasasa Almasria for transformation of Electricity) .

This job covered the distribution transformers ratings up to 5000 KVA (for both local and imported products) ,

So our team work got high experience in all process related to the distribution transformers production.

Depending on the high experience of our technical team formed by our company we started the production of distribution transformers.

OUR PRODUCTION PLAN

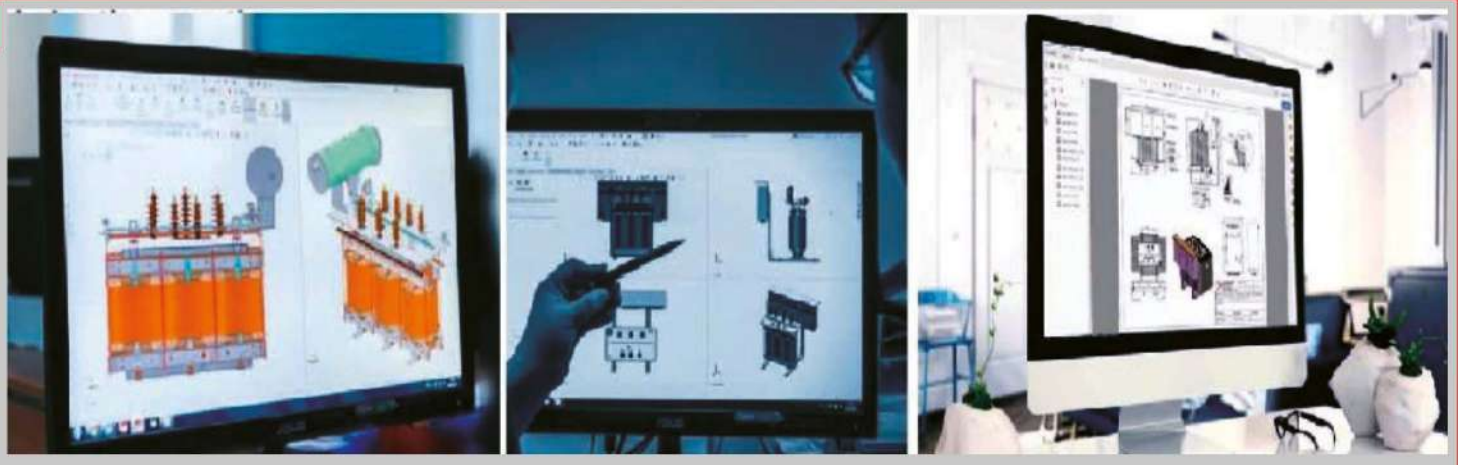
1 - First stage from 50 : 2000 KVA with voltage system up to 24 KV.

2 - Second stage up to 5000 KVA with voltage system up to 24 KV.

TECHNICAL SUPPORT

1- High qualified experts having high experience in the field of design and production of distribution transformers.

2- the production lines including the machinery and testing lab, handling and systems electro mechanical works and the (IT) system were reviwed by some technical consultant offices



QUALITY POLICY

OUR QUALITY POLICY DEPEND ON THE SATISFACTION OF OUR CLIENTS OF OUR PRODUCTS AND AFTER SALES SERVICES, WE CONSIDER THE CONTINUAL DEVELOPMENT OF OUR PRODUCTS IS OUR MAIN TARGET. OUR FUTURE BUSINESS WILL DEPEND ON OUR CLIENTS TRUST IN THE HIGH QUALITY OF OUR PRODUCTS.

PRODUCTION STANDARDS

- IEC 60076 for power transformer
- IEC 60137 for bushings
- IEC 60296 for mineral oil requirements
- Iso 9001 for international Standard for the requirement of quality managing system
- Also all international Standard for all materials used in the production process are applicable.

OUR PRODUCTS

We produce single and three phase oil immersed transformer of the following type :-

- Natural cooling (ONAN)
- Forced cooling (ONAF)
- Hermetically sealed transformers.
- With cable end box.
- Hermetically sealed transformers with pressure relief device .
- Using any type of bushing , oil filled, Elastimouldand bus-bar type.
- Mineral oil or silicon oil may be used.
- Number of taps as per the client requirements.

OUR PRODUCTS OF SPECIAL TRANSFORMERS

- Dual HV and LV transformer.
- Auto transformer.
- Isolation transformer
- Earthing transformer
- Transformers feeding converters / inverters.
- Rectifier transformer

TRANSFORMER CONSTRUCTION

MAIN COMPONENTS

A- WINDING

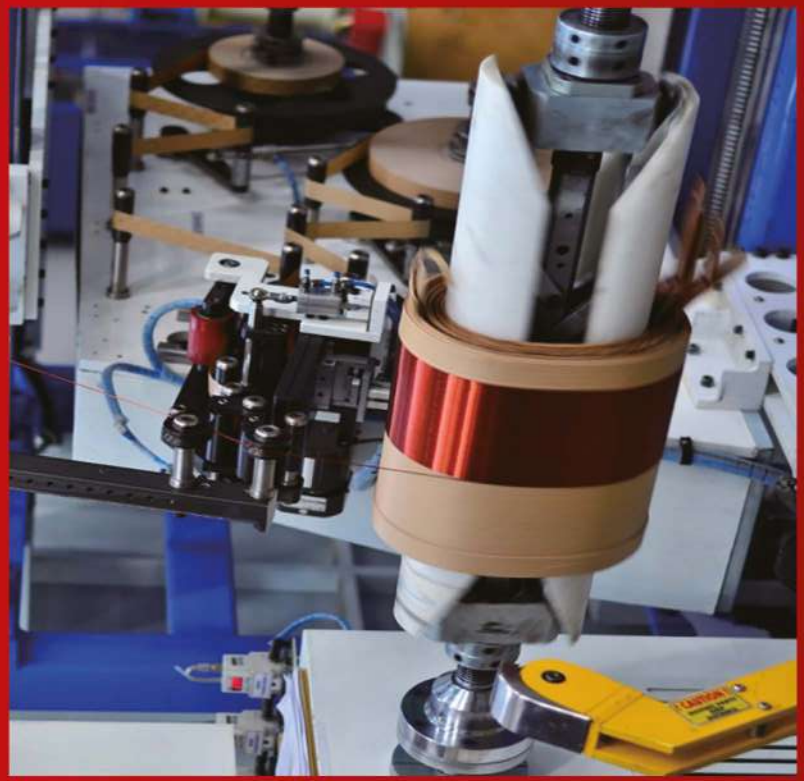
- LOW VOLTAGE WINDING:

- For transformer with rating up to 200 kva using insulated flat copper conductors according to IEC 60317 , The winding is multi layers helical type.
- For transformer with rating starting from 300 kva up to 2000 kva winding using copper foil insulated with special paper during the winding process , this type of coils have high stability during short circuit because the axial forces have no effects in the foil conductor. The low voltage winding are provided with needed cooling canal.

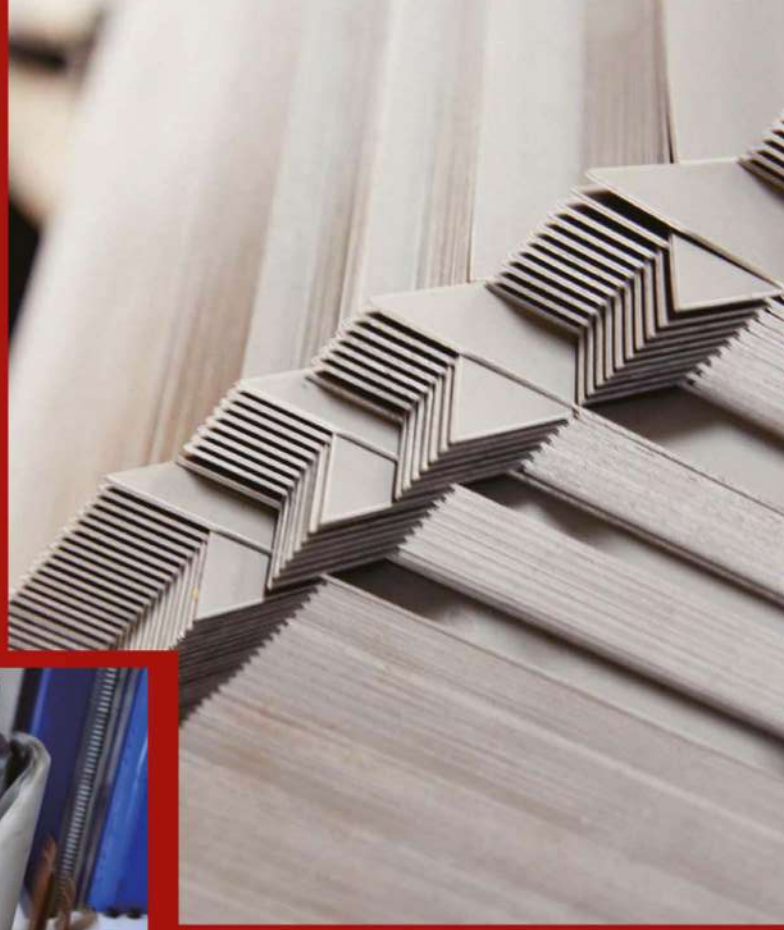
- HIGH VOLTAGE WINDING:

- high voltage winding which is wounded around the low voltage one using round copper conductors insulated with varnish or by using flat copper conductors insulated by special paper insulation.
- They are helical or disc type multi-layers windings.
- high voltage winding have cooling ducts to get efficient cooling.
- high voltage winding are provided with tappings up to 7 steps or more according to the customer request.

Low voltage winding



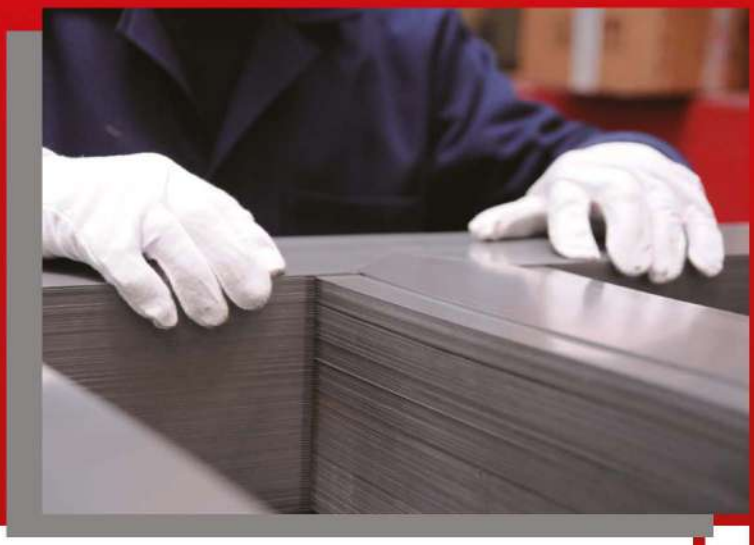
High voltage winding



Iron core

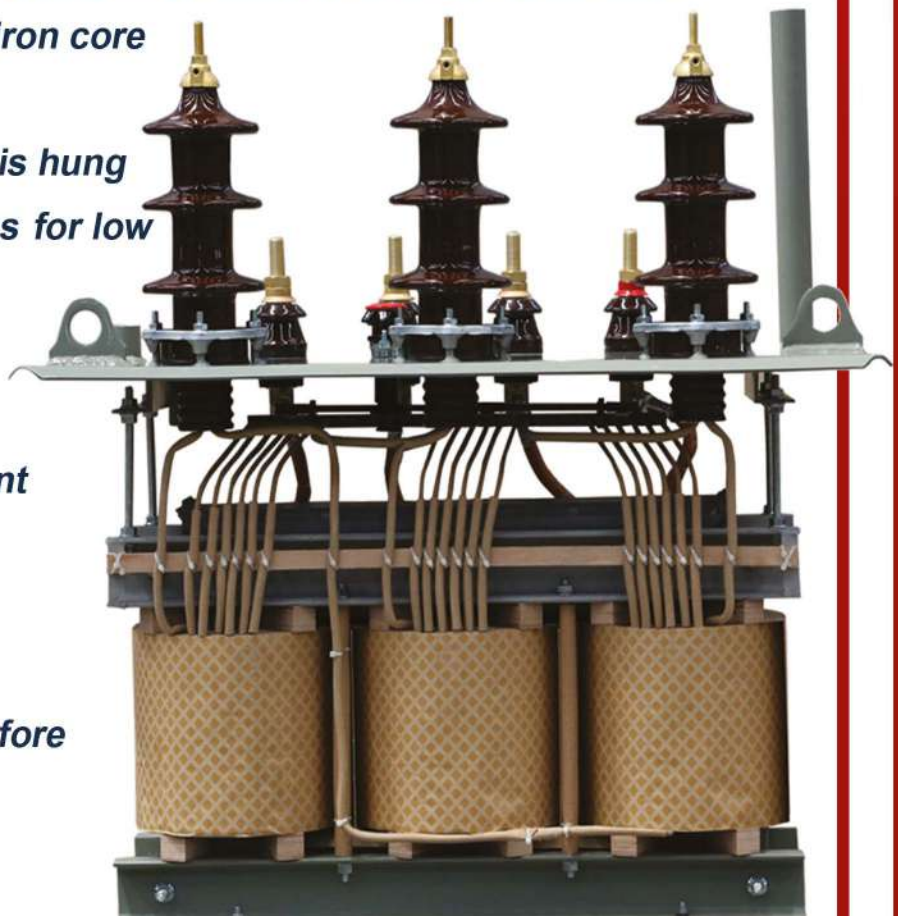
B- IRON CORE

- The Core is made of cold rolled grain oriented silicon steel laminations, we are using high grade of silicon steel to get the lower losses and noise.
- The production of limbs and yoke laminations are without burrs to minimize the no load losses and the no load current.
- Stacking of iron core may be but lab or step lab.



C- ACTIVE PART

- At this stage we mounting the coils on the limbs of iron core and also the stacking of upper yoke of iron core to close the magnetic circuit of transformer, the tank cover is hung over core-coil, The connections for low and high voltage windings to the bushings and tap changer will be such that to get the vector group according to client and network requirements
- Then the active parts must be completely dried to get rid of the moisture completely before putting into the tank .



D- TANK AND COVER

a- cover

- The cover is produced from steel 37 with thickness depend on the transformer rating.
- The cover carry l.v and h.v bushings , off circuit tap changer , conservator, and all protection devices as pressure relief valve, DGPT2 and thermometer pocket. Also the conservator is fitted with magnetic oil level indicator and dehydrating breather.

B- TANK TEC TRAFO PRODUCE 2 TYPE OF TANKS

1 -Tank with conservator

The tank is normally made of corrugated panels. The corrugated panels are welded together with rigid bottom having a draining valve and upper frame having holes to be fitted with the cover caring the active part. The tank is provided with conservator has a breather and oil level indicator .

2 - Sealed Type

transformer tank. In this case the cover may be provided with pressure releaf valve or DGPT device.

E- OIL

It is normally mineral oil , the oil is used as an insulating and for cooling purpose. TEC TRAFO uses high quality grade oil as per IEC 296 and free of pcp . the transformers are filled with oil according to our manufacturing process shown after.

F- BUSHINGS

TEC TRAFO uses any type of bushing according to request:

- *oil filled bushing.*
- *bus-bar type bushing.*
- *Elastimould type bushing*

The H.V bushings are selected according to the voltage system as per DIN 42531 OR DIN 42532 and DIN 42533 or as per customers requirements and are provided with arcing horn made of mild steel.

G- PAINTING

The tank and Cover and conservator are subjected for degreasing and plating before starting the painting. We are using shower system or spray system.

The color of painting is according to RAL7033.

The painting thickness is > 100 M.

Painting consists of one layer under coat and two layers top coat.

STANDARD AND OPTIONAL ACCESSORIES

a- Standard fittings

1- oil filling valve

2- oil drain valve

3- Oil Level Indicator

4- HV Bushing

5- LV Bushing

6 - Lifting Lugs

7- thermometer

8- Earting Terminal

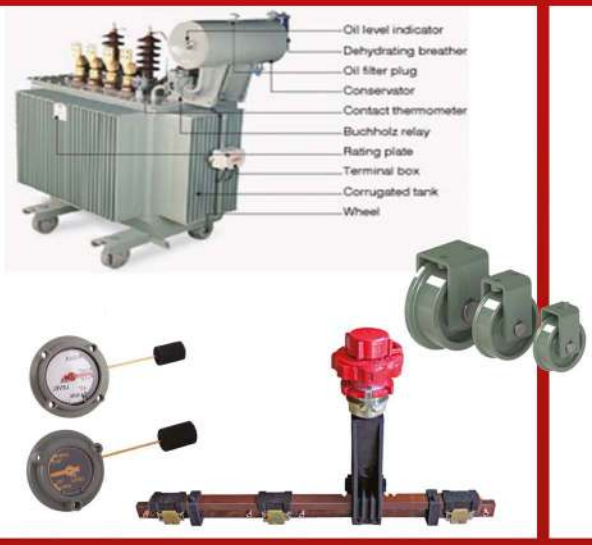
9- Off Load Tap Changer

10- Name Plate

11- Conservator Tank

12- Arching Horn

13- Wheel Base



b-Optional fittings

1.Buchhloz relay .

2. Thermometer with auxiliary contact.

3. DGPT2 device.

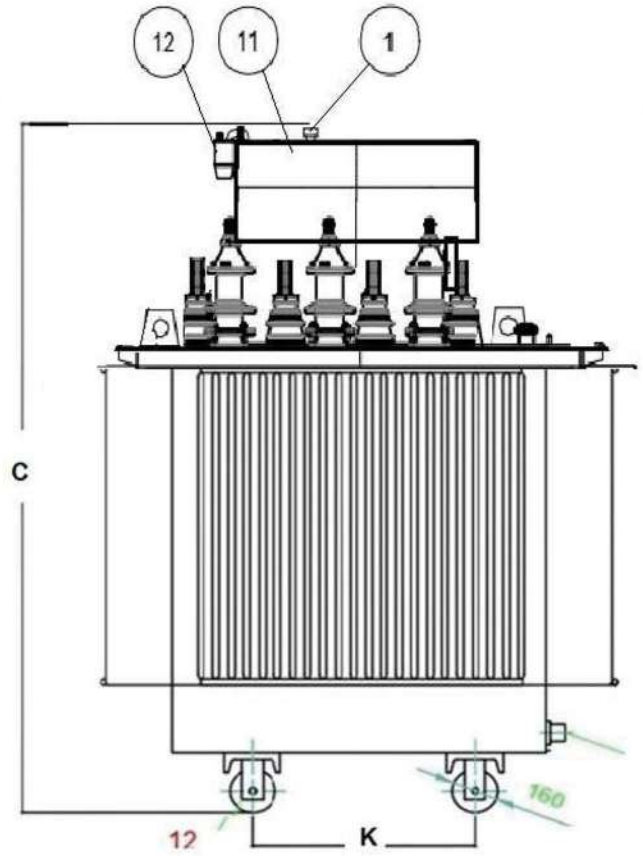
4. Winding temperature controller.

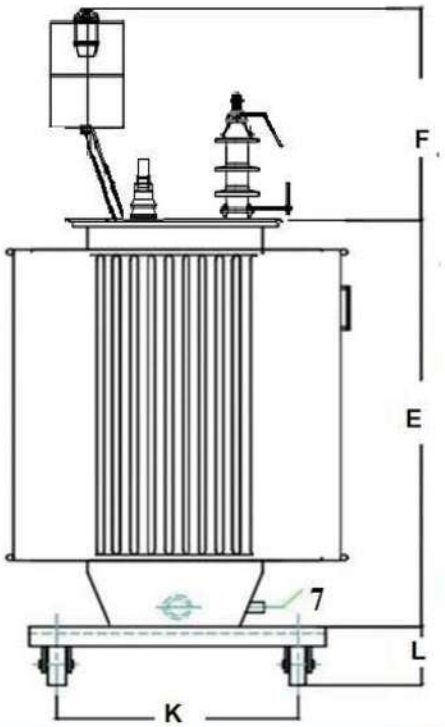
5. Pressure relief valve.

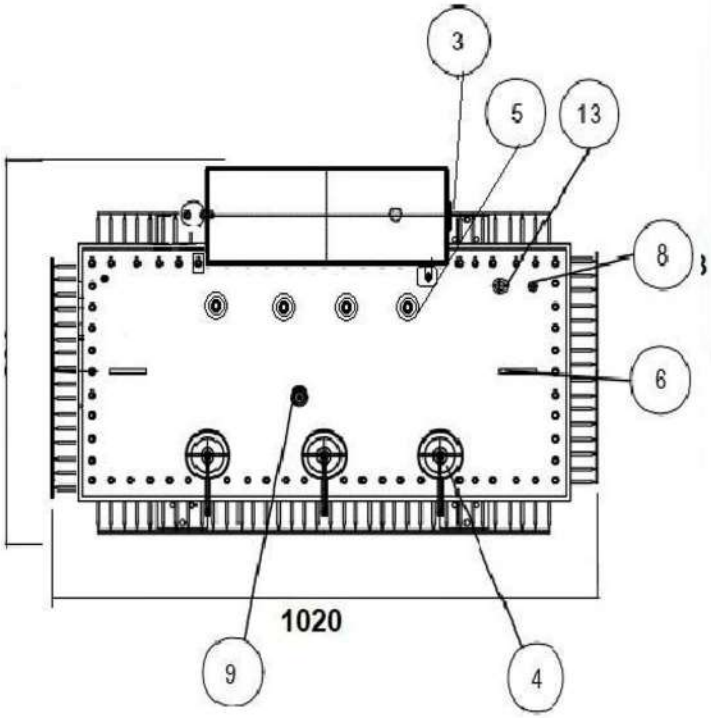
6. Cable end box on both low and high voltage side.

7. Marshalling box

22&11&10.5/0.4 KV CU/CU , Dyn 11, CONSERVATOR TYPE, ONAN TRANSFORMER







TEMPERATURE LIMITS

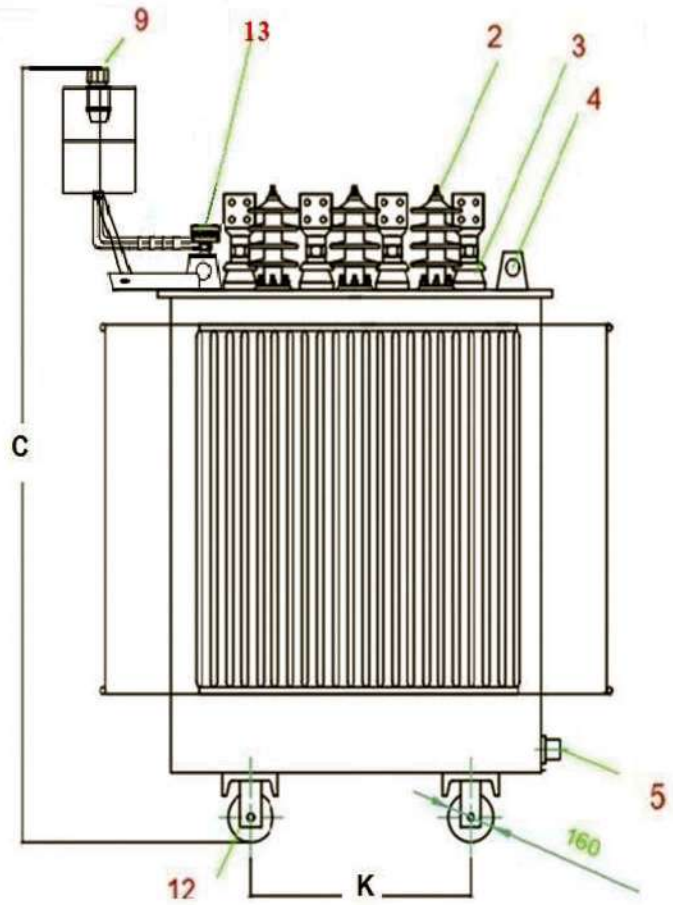
- Maximum ambient temperature 45 C°
- Maximum temperature rise of oil 50 C°
- Maximum temperature rise of winding 55 C°
- Transformers are withstand over loading acc. IEC 600354
- Copper losses are at 95 C°
- Tolerance in dimensions and wieghts ± 5 %

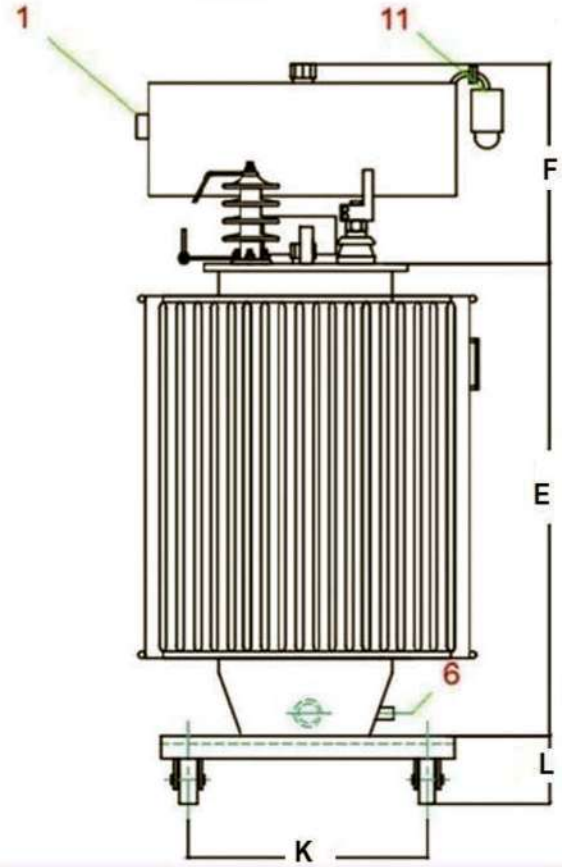
No	DESCRIPTION
1	Oil Filling
2	Oil Drain Valve
3	Oil Level Indicator
4	H.V Bushing
5	L.V Bushing
6	Lifting Lugs
7	Earthing terminal
8	Earthing terminal on cover
9	Off Load Tap Changer
10	Rating Plate
11	Conservator tank
12	De hydrating breather
15	Thermometer

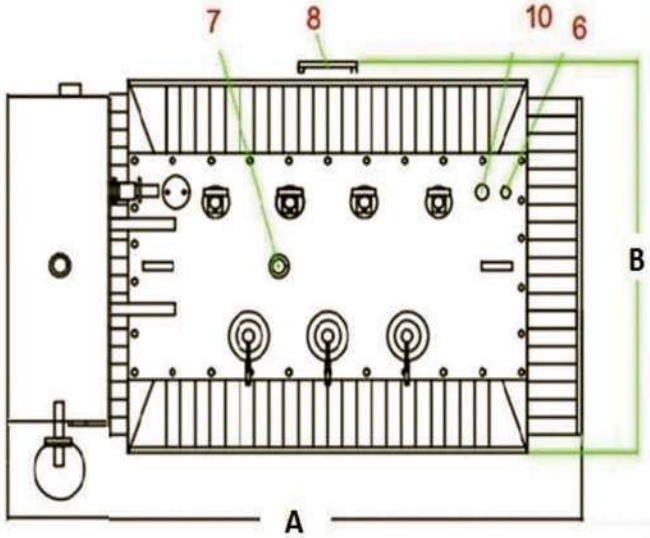
KVA	Po(W)	Pcc(W)	Ucc %	A	B	C	E	F	K	L	OIL KG	TOT KG
100	272	1505	4	1020	630	1410	760	490	520	201	195	690

FIG (1)

22&11&10.5/0.4 KV CU/CU , Dyn 11, CONSERVATOR TYPE, ONAN TRANSFORMER







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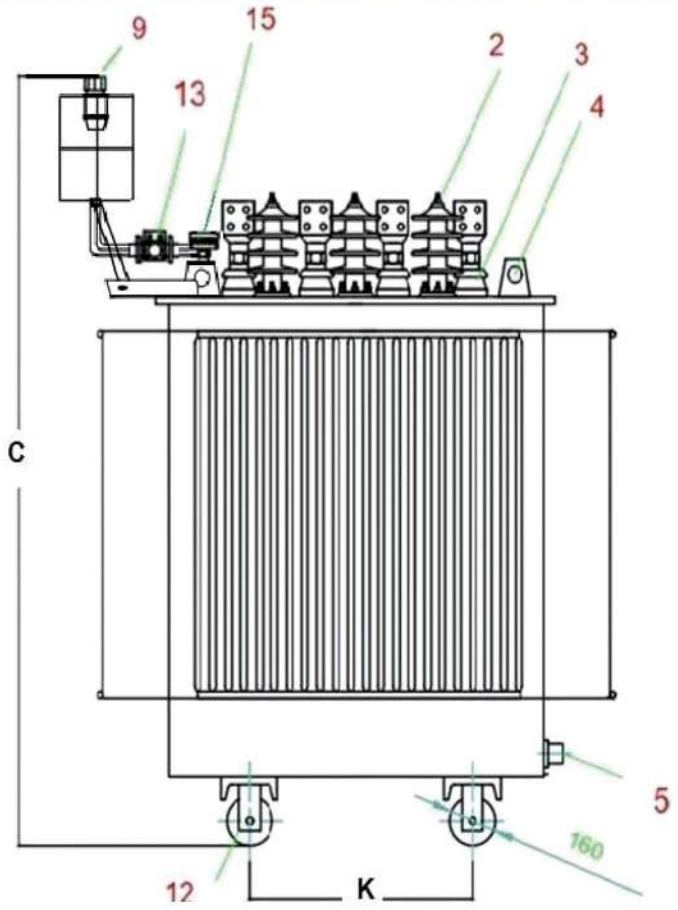
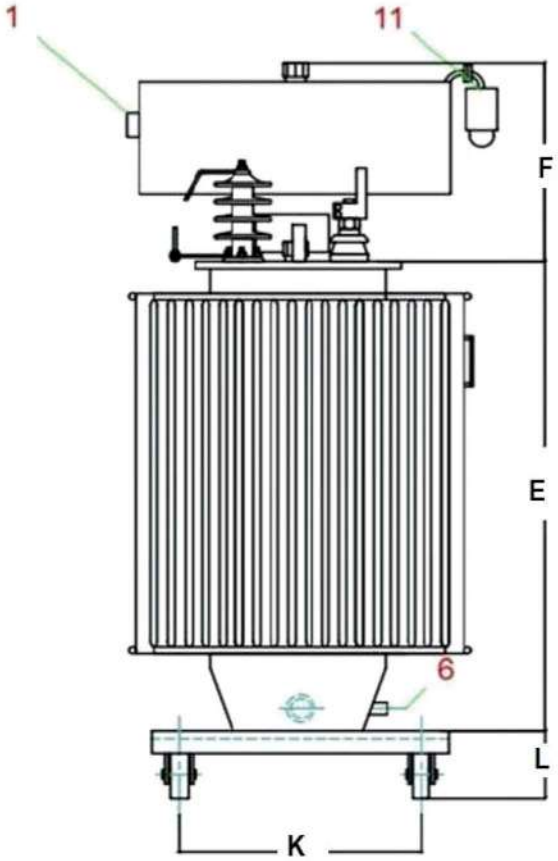
No	DESCRIPTION
1	Oil Level Indicator
2	H.V Bushing
3	L.V Bushing
4	Lifting Lugs
5	Oil Drain Valve
6	Earthing terminal
7	Off Load Tap Changer
8	Rating Plate
9	Oil Filling Hole
10	Alcohol Termometer
11	De hydrating breather
12	Whells
13	Thermometer

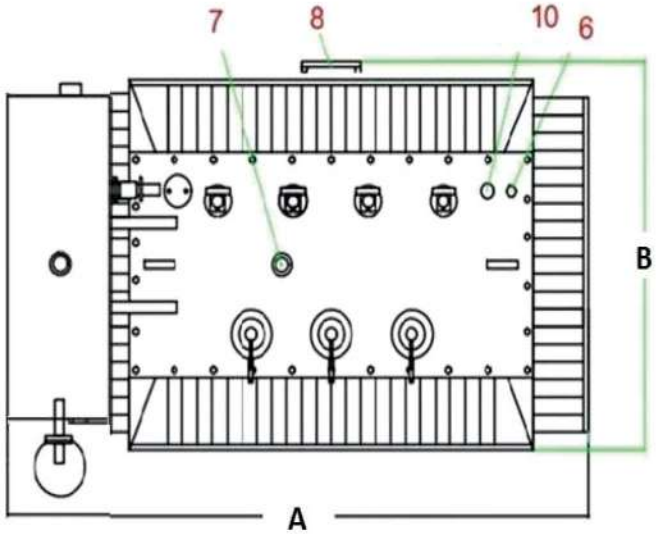
KVA	Po(W)	Pcc(W)	Ucc %	A	B	C	E	F	K	L	OIL KG	TOT KG
200	456	2520	4	1210	700	1660	980	490	520	201	245	995
300	576	3815	4	1410	810	1770	1080	490	670	201	295	1290
500	700	5460	4	1510	980	1890	1180	530	670	201	365	1840

FIG (2)

22&11&10.5/0.4 KV CU/CU , Dyn 11, CONSERVATOR TYPE, ONAN TRANSFORMER







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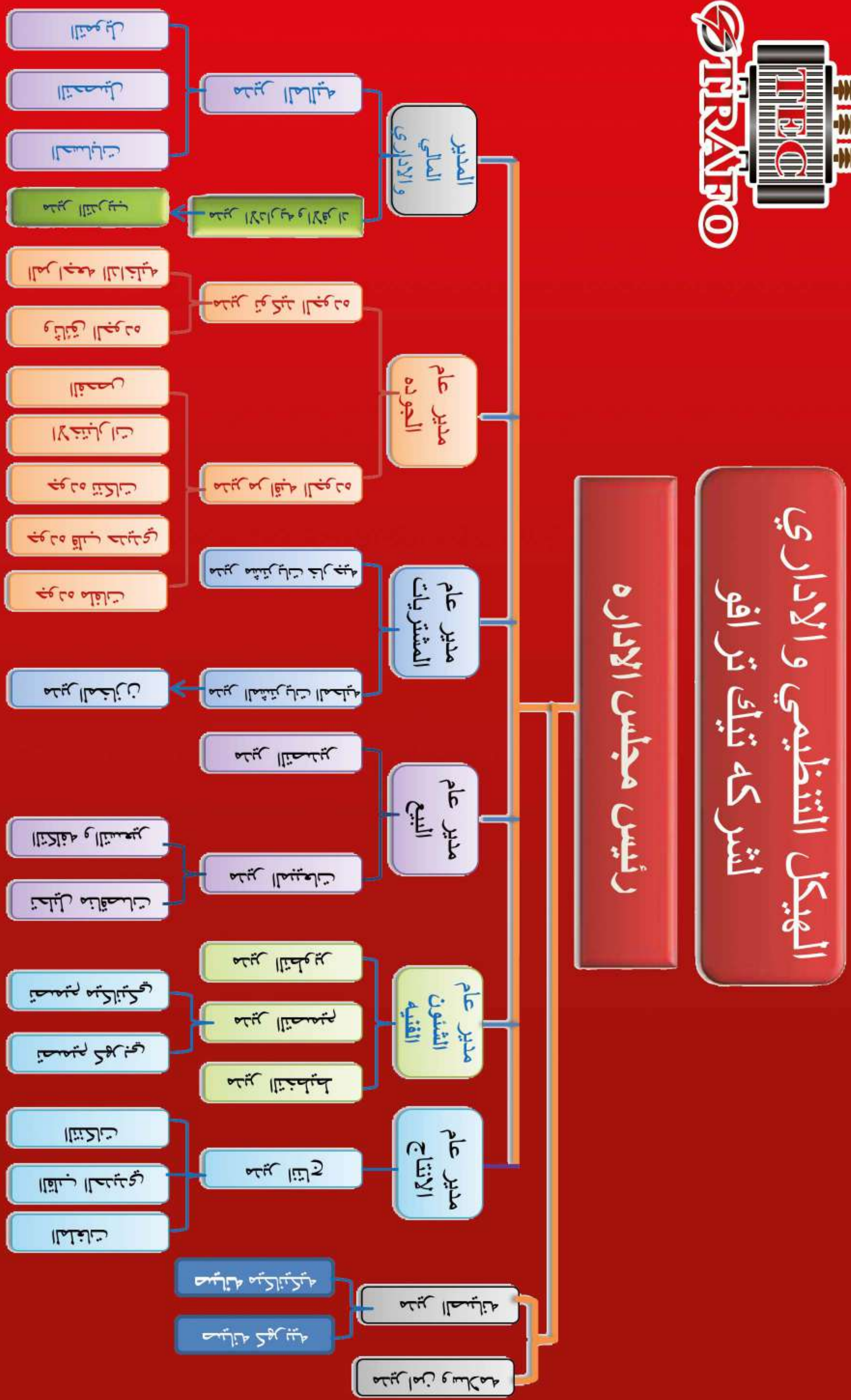
2	H.V Bushing
3	L.V Bushing
4	Lifting Lugs
5	Oil Drain Valve
6	Earthing terminal
7	Off Load Tap Changer
8	Rating Plate
9	Oil Filling Hole
10	Alcohol Termometer
11	De hydrating breather
12	Whells
13	Bucholz Relay
15	Thermometer

KVA	Po(W)	Pcc(W)	Ucc %	A	B	C	E	F	K	L	OIL KG	TOT KG
1000	1222	9450	5	1680	1060	1910	1220	490	820	201	550	2770
1500	1785	13860	6	2190	1370	2030	1240	590	820	201	800	3950
2000	2736	15750	6	2160	1380	2150	1370	590	820	201	900	4600

FIG (3)


الهيكل التنظيمي و الاداري لشركة تيك ترافو
رئيس مجلس الاداره
المدير المالي و الاداري
مدير الماليه
الحسابات
التحصيل
التمويل
مدير الاداريه والافراد
مدير التدريب
مدير عام الجوده
مدير توكيد الجوده
وثائق الجوده
المراجعه الداخليه
مدير مراقبه الجوده
جوده ملفات
جوده قلب حديدي
جوده تنكات
الاختبارات
الفحص
مدير عام المشتريات
مدير مشتريات خارجيه
مدير المشتريات المحليه
مدير المخازن
مدير عام البيع
مدير التصدير
مدير المبيعات
تحليل مناقصات
التكلفه و التسعير
مدير عام الشئون الفنيه
مدير التطوير
مدير التصميم
مدير التخطيط
تصميم كهربي
تصميم ميكانيكي
مدير عام الانتاج
مدير انتاج
الملفات
القلب الحديدي
التنكات
مدير الصيانه
صيانه كهربيه
صيانه ميكانيكيه
مدير امن وسلامه

TYPE OF COALING

Two types of cooling are used.

ONAN system.

ONAF system.

ACTIVE PART DRYING AND TRANSFORMER FILLING

Drying and oil filling unit

Active part are drying inside a vacuum drying oven.

A drying cycle is applied including heating and evacuating For the active parts.

After drying cycle the active parts becomes free of moisture and water content.

After the final assembly of the transformer it is putting inside vacuum drying oven.

A complete evacuation cycle is applied until 1 mm bar.

After reaching that value of vacuum the oil is filling automatically for

the transformer until the transformerbecome complete filled

Thiscycle prevent the formation of air bubbles

QUALITY CONTROL SYSTEM

The quality control are carried out by a quality control qualified engineers and technicians.The quality control instructions are documented sing aWork instructions, forms and identification cards.The quality control system cover all production processesIncluding windings, iron core, assembly and tanks. A corrective actions are done against any non conformity operations.

11 TRANSFORMER TESTING

(ACCORDING TO IEC 60076)

A. Routine Test
(According to IEC 60076 part 1)
They are performed on all manufacturing transformers
A.C withstand high voltage. withstand test Induced over voltage withstand test Turns ratio and vector group Load loss and impedance voltage No load loss and no load current Winding d.c resistanceInsulation resistance Oil break down voltage

As per client request the following tests may be done
B-Type test
- Lightening impulse voltage
- Temperature rise test
C- Spical test
- Short circuit test
- Oil leakage test

OPERATING MANUALS

Our company provides operating manual covers the following topics.

A - Storing and handing of our prouducts.

b- Operating instructions before putting the transformer into service.

C- Monitoring the transformer during service.

d- Periodic preventive maintenance for transformers.

AFTER SALES SERVICE.

Our company provides the following services

1- Repairing the transformer during warranty and after warranty period

2- Performing all types of maintenance

a- As oil leakage from tank or conservator or due to gasket defect.

b- Replacing the defected parts same bushings and protective device

c- Changing the aged oil by new oned

d- If required we make purification for the polluted oil and checking the break down voltage after purification

3- We can perform the following test in site

Turn ratio test

Measuring d.c resistance

Measuring for insulation resistance

4- All spare parts can be provided

5-Training are provided for our coustomers if needed

6- Installation works for our prodaucts can be done under our supervision

Certificate of Registration

ISO 14001:2015

This is to Certify that
Environmental Management System of

THE EGYPTIAN COMPANY FOR ELECTRICAL TRANSFORMERS
"TEC TRAFO"

PLOT 164-166, THIRD INDUSTRIAL ZONE, SECOND SERVICE HUB,
6 OCTOBER CITY, GIZA, EGYPT

has been assessed and found to conform to the requirements of

ISO 14001:2015

for the following scope :

DESIGN AND MANUFACTURING OF DISTRIBUTION TRANSFORMERS TILL 5 MVA RATING POWER WITH HIGH VOLTAGE UP TO 33 KV

Certificate No	: **20IEFX53/R1**		
Initial Registration Date	: 22/10/2020	Issuance Date	: 22/10/2020
Date of Expiry	: 21/10/2023	2nd Surve. Due	: 22/09/2022

Director

IAS ACCREDITED Management Systems Certification Body MSCB-119

MEMBER OF MULTILATERAL RECOGNITION ARRANGEMENT IAF

AQC MIDDLE EAST LLC

Head Office: Office No. 02, Ground Floor, Sharjah Media City, Sharjah, UAE. e-mail: info@aqcworld.com,

**Validity of the Certificate is subject to successful completion of surveillance audit on or before of due date. (in case surveillance audit is not allowed to be conducted, this certificate shall be suspended/withdrawal).*

Certificate Verification: Please Re-check the validity of certificate at http://www.aqcworld.com/activeclients.aspx or www.aqcworld.com at Active Clients.

Certificate is the property of AQC Middle East LLC and shall be returned immediately when demanded

Certificate of Registration

ISO 45001:2018

This is to Certify that
Occupational Health & Safety Management System of

THE EGYPTIAN COMPANY FOR ELECTRICAL TRANSFORMERS
"TEC TRAFO"

PLOT 164-166, THIRD INDUSTRIAL ZONE, SECOND SERVICE HUB,
6 OCTOBER CITY, GIZA, EGYPT

has been assessed and found to conform to the requirements of

ISO 45001:2018

for the following scope :

DESIGN AND MANUFACTURING OF DISTRIBUTION TRANSFORMERS TILL 5 MVA RATING POWER WITH HIGH VOLTAGE UP TO 33 KV

Certificate No	: **20IOFD54/R1**		
Initial Registration Date	: 20/10/2020	Issuance Date	: 20/10/2020
Date of Expiry	: 19/10/2023	2nd Surve. Due	: 20/09/2022

Director

IAS ACCREDITED Management Systems Certification Body MSCB-119

MEMBER OF MULTILATERAL RECOGNITION ARRANGEMENT IAF

AQC MIDDLE EAST LLC

Head Office: Office No. 02, Ground Floor, Sharjah Media City, Sharjah, UAE. e-mail: info@aqcworld.com,

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CERTIFICATE OF REGISTRATION

This is to certify that the Quality Management System of

The Egyptian Company for Electrical Transformers "TEC TRAFO"

Plot 164-166, Third Industrial Zone, Second Service hub, 6 October City, Giza, Egypt

has been assessed and registered by TNV as conforming to the requirements of:

ISO 9001 : 2015

For the following Scope

"Design and Production of Distribution Transformers till 3 MVA Rating Power with High Voltage up to 33 KV"

"IAF Group-19"

TNV is accredited by International Accreditation Services (IAS), Status of Certificate can be verified on www.tnvgroup.org & www.iafcertsearch.org

Certificate Number :	**201021012001**
Initial Issue Date:	**21st Oct. 2020**
Issue Date:	**21st Oct. 2020**
Valid Until:	**20th Oct. 2022**
1st Surveillance Date:	**Completed**
2nd Surveillance Date:	**21st Sep. 2022**
Revision:	**00**

IAS ACCREDITED Management Systems Certification Body

MEMBER OF MULTILATERAL RECOGNITION ARRANGEMENT IAF

Pragyesh Singh
CEO
TNV System Certification P Ltd.

MANAGEMENT SYSTEM CERTIFICATE

Regd. Off: TNV House, 637-B/187-B, Amber Vihar, Lucknow-20 UP, Mail: info@tnvgroup.org

Terms and Conditions:

1. Validity of this certificate is subject to the organization maintaining its system in accordance with respective Management System Standards along with TNV's requirements.
2. This certificate remains the property of TNV System Certification P Ltd., to whom it must be returned upon request.
3. Use of Logo must be in accordance with the requirement of the TNV and Accreditation board (if any) failure to meet the requirement shall be held liable for action.
4. This certificate is not final evidence of certification status, status must be verified with current status as given in TNV's official website i.e. www.tnvgroup.org or writer to tnvceo@gmail.com or info@tnvgroup.org

INSTITUTE OF POWER ENGINEERING

DISTRIBUTION EQUIPMENT LABORATORY

Mory 8, 01-330 Warszawa, Poland
phone: +48 22 836 73 35
email: eur@ien.com.pl
http://www.ien.com.pl/eur

AB 324

TEST REPORT No. EUR/22/E/21-2

TEST OBJECT: 300 kVA Oil Transformer Serial No. 210351

MANUFACTURER: TEC TRAFO, Egyptian company for electrical transformers
Degla St., Mohandessen, Giza, Egypt

TESTS ORDERED BY: TEC TRAFO, Egypt. Order No. 126 dated 20.03.2021

TYPE OF TESTS: Dynamic ability to withstand short-circuit test

According to criteria given in IEC 60076-5:2006 and on the base of:

- analysis of records during short-circuit test, which didn't show the deformations of shape of currents in any winding,
- measurements of short-circuit inductance, results of which didn't demonstrate the exceeding of permissible value,
- results of routine tests after short-circuit test, which have shown the correct technical state of the transformer,
- inspection of the untanked transformer after short-circuit test, which didn't reveal any excessive displacements or deformations of windings, any deformations of connecting connections or supporting structures, any traces of discharges and any overheating marks.

the result of dynamic ability to withstand short-circuit test of tested transformer is positive.

Authorizing Test Engineer

Tomasz Kaczmarczyk

HEAD OF LABORATORY

Przemysław Berowski

Warsaw, 06.09.2021

INSTITUTE OF POWER ENGINEERING

DISTRIBUTION EQUIPMENT LABORATORY

Mory 8, 01-330 Warszawa, Poland
phone: +48 22 836 73 35
email: eur@ien.com.pl
http://www.ien.com.pl/eur

AB 324

TEST REPORT No. EUR/22/E/21-1

TEST OBJECT: 1600 kVA Oil Transformer Serial No. 210350

MANUFACTURER: TEC TRAFO,Egyptian company for electrical transformers
Degla St., Mohandessen, Giza, Egypt

TESTS ORDERED BY: TEC TRAFO, Egypt. Order No. 126 dated 20.03.2021

TYPE OF TESTS: Dynamic ability to withstand short-circuit test

According to criteria given in IEC 60076-5:2006 and on the base of:

- analysis of records during short-circuit test, which didn't show the deformations of shape of currents in any winding,
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the result of dynamic ability to withstand short-circuit test of tested transformer is positive.

Authorizing Test Engineer

Tomasz Kaczmarczyk

HEAD OF LABORATORY

Przemysław Berowski

Warsaw, 06.09.2021

The test report comprises 27 pages, 11 records, 2 tables, 1 figure and 6 photographs.
Tests results presented in the test report refers only to the tested object.

Some of our clients

وزارة الكهرباء و الطاقه المتجدده
شركة مصر الوسطي لتوزيع الكهرباء

الهيئة العربية للتصنيع
ARAB ORGANIZATION FOR INDUSTRIALIZATION

HELIOPOLIS CO. FOR CHEMICAL INDUSTRIES
شركة هليوبوليس للصناعات الكيماوية

NREA

فاين

EL OLA
EL OLA STEEL GROUP
مجموعة العلا للصلب

DINA FARMS

MAGRABI
AGRICULTURE

Housing & Development Bank
بنك التعمير و الإسكان

TOSHIBA

العربي

أخبار اليوم

Domty

Gardenia Plaza
Hotel & Resort

CHINT | EGEMAC

What we have to offer

The Egyptian company provides all solutions for distribution transformers, including maintenance and production

- **production plan will be through**
  50 : 2500KVA with voltage system up to 24 KV.

- **Repairing all types of transformers, whether produced by the company or the production of other local companies in Egypt.**
  We also have the ability of repairing all transformers located in Egypt and capacity up to 5 MVA and efforts up to 33 KV

THE EGYPTIAN COMPANY FOR ELECTRICAL TRANSFORMERS

Distribution Transformer

Adress : Plot 164 - 166, Third Industrial Zone,
second service hub, 6 October City, Giza, Egypt
Mail:Info@Tectrafoegypt.com