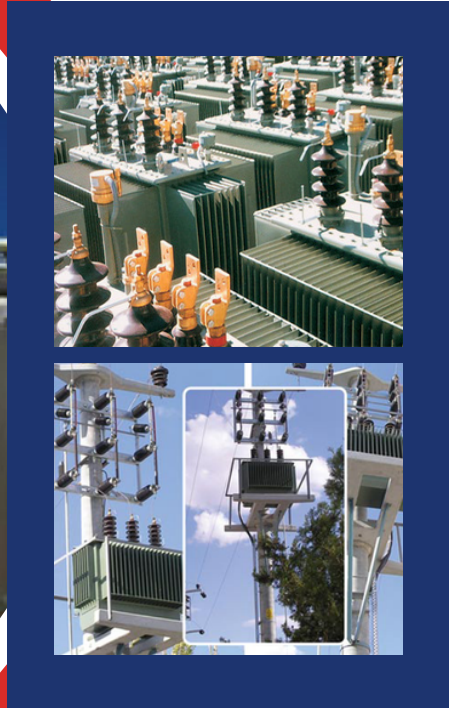




Company Handbook

Welcome To Our Company.



20
25





Contents

Şirket Profili / Company Profile **01**
Mizyonumuz, vizyonumuz / Our mission, our vision

Kalite Sertifikalarımız / Quality Certificates **02**
Referanslarımız/Our References

Dağıtım transformatörleri / Distribution Transformers **03**
04

Nüve (Manyetik devre) / Core (Magnetic circuit) **05**

Sargılar / Windings **06**

Deney Test ve kalite kontrol / Tests and quality check **07**

Aksesuarlar / Accessories **08**

İletişim / Contact **09**





Welcome Message

Vision & Mission

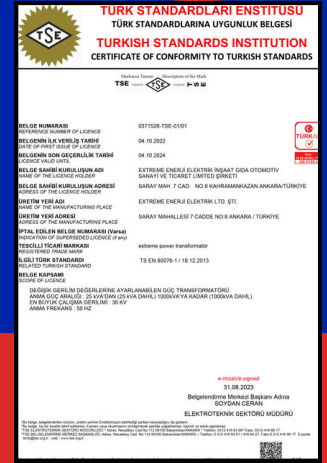
Extreme Enerji Elektrik Ltd. Şti. started its operations in the energy sector in 2015, specializing in medium voltage material supply and the repair and maintenance of distribution transformers. Since 2017, the company has shifted its focus entirely to the manufacturing of distribution and power transformers under the brand name Extreme Power Transformator, expanding its factory space and machinery park. The company continues to produce transformers with power ratings ranging from 25 kVA to 2500 kVA at various voltage levels.

The Extreme Power Transformator brand continues to enhance the capabilities of its clients in numerous projects, including hospitals, solar power plants, wind power plants, dams, airports, military facilities, shopping malls, hotels, and more.

Our mission as Extreme Power Transformator is to manufacture cost-effective transformers without compromising on quality, based on our customers' requirements. To date, we have produced nearly 8,000 transformers of various power ratings and voltages, which are being used in both domestic and international markets with high customer satisfaction. The transformers we produce are designed according to customer requests and needs, following international standards such as IEC, TSE, NEMA, and the European Parliament and Council's 2009/125/EC (ecodesign) directives. Our operations and products are certified under TSE 267, ISO 9001, ISO 45001, and OHSAS 18001. Type testing is conducted in laboratories such as BUYAL, ELKO, KEMA, and ICMET. In addition to the domestic market, the products we manufacture are also exported to Europe, the Balkans, Asia, the Middle East, and Africa.



Quality Certificates Our References



Extreme Power Transformer has produced transformers domestically for major electricity distribution companies such as TEDAŞ (Turkish Electricity Distribution Corporation), Enerji SA, UEDAŞ, TREDAŞ, ÇEDAŞ, as well as many individual customers. These transformers are used in solar power plants, shopping malls, hospitals, fuel stations, agricultural irrigation projects, and factories. We manufacture transformers for many customers in Europe, the Balkans, Africa, and Asia, tailored to their demands and in compliance with standards such as ECO DESIGN, IEC-EN 60076, and EN50464-1.

Visit Our Website
www.extremepower.com.tr



Distribution Transformers - Sample

Three - phase oil - filled and hermetically sealed transformers
50 - 3150 kVA, 7.2 - 24 kV, **Ecodesign**, A0Bk max., Cu winding

Technical data

Standard	IEC 60076, EN 50464 - 1/A1 Ecodesign regulation EU no. 548/2014
Transformer design	Completely oil - filled, hermetically sealed Corrugated tank, cover bolted
Indoor and outdoor use	
Continuous loading	Overload capacity - IEC 60076 - 7
Cooling system	ONAN, mineral oil - EN 60296 *
Ambient temperature	≤ 40°C *, altitude ≤ 1000 m *
Thermal class	105 (A) - temperature rise winding/oil 65/60 K
Corrosion protection	Coating system - class C3 - EN ISO 12944-5 * Standard RAL 7033 *

Electrical characteristics

Rated power High voltage (HV)	50 - 3150 kVA *
Tapping range HV Low voltage (LV)	6 kV, 10 kV, 20 kV, 22 kV *
Frequency	± 2 x 2,5 % * off-circuit
Insulation level	400/231 V, 420/242 V *
Vector group	50 Hz *
	Um 24 kV LI/AC 125/50
	Um 12 kV LI/AC 75/28
	Um 7,2 kV LI/AC 60/20
	Um 1,1 kV LI/AC - /3
	50 - 160 kVA Yzn *
	250 - 3150 kVA Dyn *

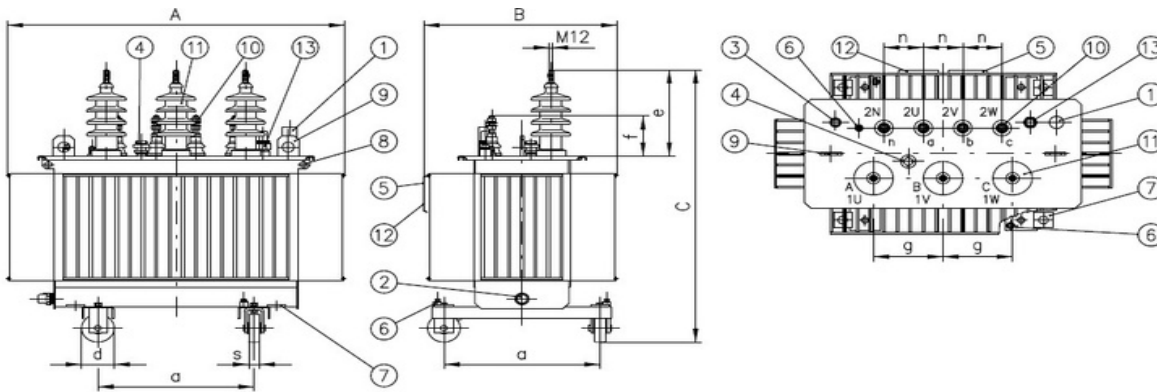
Rated power	kVA	50	100	160	250	400	630	800	1000	1250	1600	2000	2500	3150
Type	TOHn	269/22	299/22	319/22	339/22	359/22	379/22	389/22	399/22	409/22	419/22	429/22	439/22	449/22
No- load losses A0 max.	Po (W)	90	145	210	300	430	600	650	770	950	1200	1450	1750	2200
No- load current	Io (%)	0,60	0,45	0,40	0,35	0,30	0,25	0,18	0,16	0,14	0,12	0,10	0,10	0,10
Load losses Bk max.	Pk75°C (W)	875	1475	2000	2750	3850	5400	7000	9000	11000	14000	18000	22000	27500
Impedance voltage	uk 75°C (%)	4	4	4	4	4	4	6	6	6	6	6	6	6
Sound level														
- pressure (0,3 m)	LpA dB(A)	30	32	35	38	41	43	44	46	47	49	50	50	50
- power	LWAdB(A)	39	41	44	47	50	52	53	55	56	58	60	60	60
Dimensions														
- length (mm)	A	855	975	1020	990	1080	1215	1265	1565	1625	1740	1980	1975	2110
- width (mm)	B	630	610	610	705	805	840	950	920	950	1030	1265	1290	1410
- height (mm)	C (6,10 kV)	1190	1155	1245	1240	1295	1405	1445	1640	1625	1840	1940	2045	2115
	C (20,22 kV)	1305	1270	1360	1355	1410	1520	1560	1685	1665	1870	1955	2045	2115
Weight [kg]	Oil	100	135	155	170	220	285	390	480	520	700	860	985	1130
	Total	555	690	870	1035	1410	1930	2440	2785	3115	4060	4750	5705	6520

For any alternative requirements (*) please contact manufacturer.
A0CK, A0BK Max, A0AK, Tier 1, Tier 2, B0BK, E0DK etc



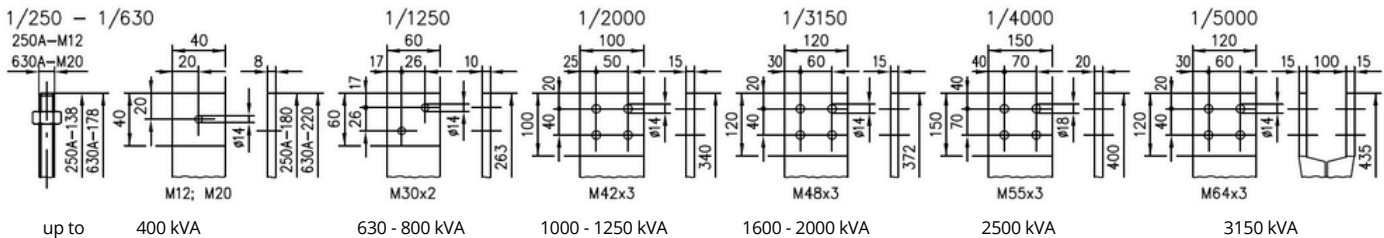
Distribution Transformers - Sample

Outline drawing



1. Oil filling plug
 - Integrated safety detector (R.I.S) *
 - Pressure relief valve *
2. Oil drain valve
3. Thermometer pocket
 - thermometer * (with or without contacts)
4. Tap changer handler
5. Rating plate
6. Earthing
7. terminal Pulling
8. plug Lushing eye
9. Lifting lug
10. LV Bushing EN 50386
 - clamp with cover
11. HV Bushing EN 50180 P2
 - plug - in bushing outer cone *
12. Trade mark
13. Oil level gauge*

LV Termination



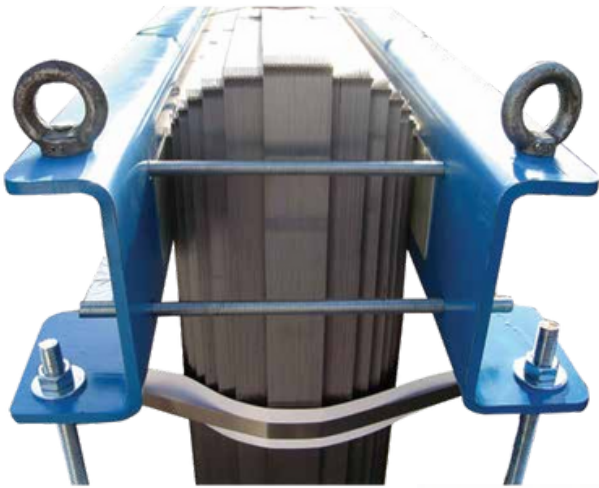
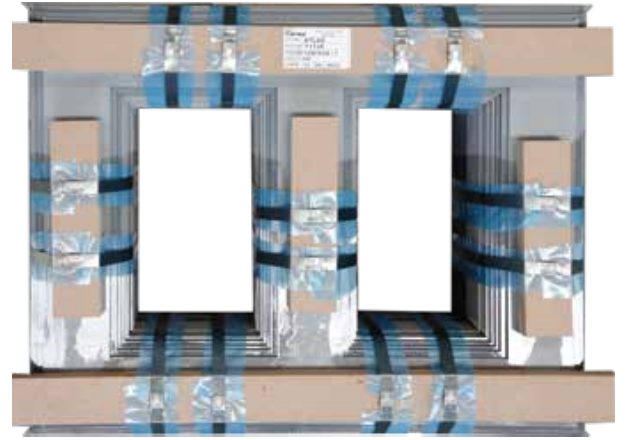
Dimensions

Rated power(kVA)	50	100	160	250	400	630	800	1000	1250	1600	2000	2500	3150
Type - TOHn	269/22	299/22	319/22	339/22	359/22	379/22	389/22	399/22	409/22	419/22	429/22	439/22	449/22
d (mm)	125	125	125	125	125	125	125	160	160	160	200	200	200
s (mm)	40	40	40	40	40	40	40	50	50	50	70	70	70
a (mm)	520	520	520	520	670	670	670	820	820	820	1070	1070	1070
e (mm)	10 kV	270	270	270	270	270	270	270	270	270	270	270	270
	22 kV	385	385	385	385	385	385	385	385	385	385	385	385
f (mm)	140	180	180	220	220	265	265	340	340	372	372	400	435
g (mm)	265	265	265	265	265	265	265	265	265	265	265	265	265
n (mm)	125	125	125	150	150	150	150	150	150	170	170	170	170

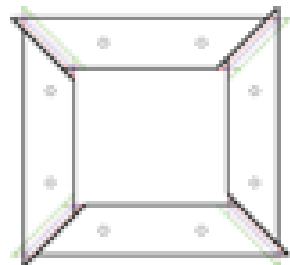
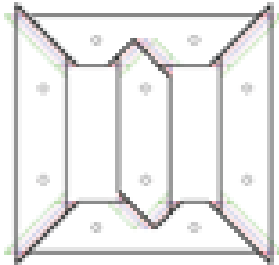
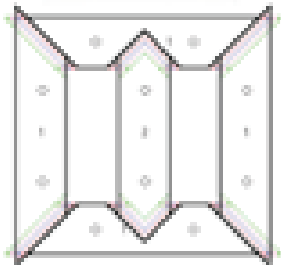
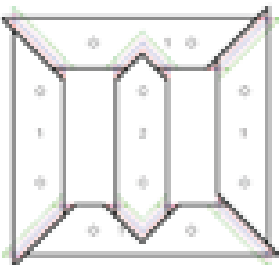
Company reserves the right to modify data without notice. Shown values serve as guidance only i.e. definitive dimensions and weights are subject to modification according to concrete purchase order.



Nüve (Manyetik devre) / Core (Magnetic circuit)



Our core designs are carefully selected based on loss ratios and are crafted from silicon steel sheets with thicknesses of 0.23, 0.27, and 0.30 mm, in accordance with our customers' requests.





Sargılar / Windings



ALÇAK GERİLİM / LOW VOLTAGE

Low voltage coil windings are wound on automatic machines using either aluminum or copper wire or foil, depending on the customer's request.

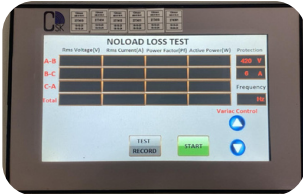
YÜKSEK GERİLİM / HIGH VOLTAGE

High voltage coil windings are wound on automatic machines using either aluminum wire or copper wire, depending on the customer's request.





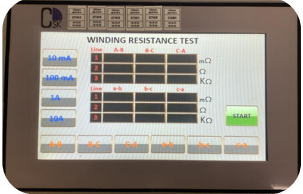
Deney Test - Kalite Kontrol / Experiment - Quality Check



BOŞTA KAYIP TEST / NOLOAD LOSS TEST



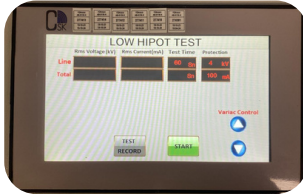
YÜKTE KAYIP TEST / LOAD LOSS TEST



SARGI DİRENÇ TEST / WINDING RESISTANCE TEST



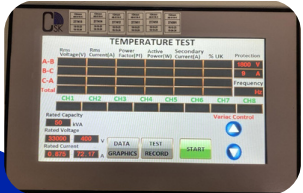
FREKANS TEST / FREQUENCY TEST



ALÇAK GERİLİM İZALASYON TEST /
LOW HIPOT TEST



YÜKSEK GERİLİM İZALASYON TEST /
HIPOT TEST



SICAKLIK TEST / TEMPERATURE TEST



YAĞ DELİNME İZALASYON TEST /
OIL BREAKDOWN DI-ELECTRICK TEST

After the mechanical assembly, baking, and oil filling processes of the transformers are completed, our expert engineers perform measurement, quality, and durability tests in the testing laboratory.

Our testing laboratory is independently audited every year by accredited organizations.

To further improve our quality, we continue to make new investments every year.





Aksesuarlar / Accessories



Buchholz Rölesi

Transformatör kapağı ile genleşme deposu arasında montajlanır. Transformatör içindeki arızalarda çeşitli gazlar açığa çıkar ve bu gazlar röledeki haznede birikerek şamandıraları harekete geçirir. Şamandıra hareketi ise ikaz ve/veya kesme mekanizmalarının çalışmasını sağlar. Röle içerisinde iki adet 5A 250 VAC kontak mevcuttur.

Buchholz Relay

Its assembling between transformer cover and conservator tank. In case of any faults, various gases are released. By the accumulating of these gases, buoys are in motion. Motion of buoys actuated alarm and/or cut off switch. Relay has two 5A. 250VAC switches.



Hermetik Koruma Rölesi

Genellikle hermetik tip transformatörlerde kullanılır. Röle gaz tahliyesini, kazan iç basıncını ve yağ sıcaklığını gösterir. Ölçülen her bir parametre için ikişer kontak bulunmaktadır.

Hermetic Protecting Relay

This relay is usually used for hermetically sealed transformers. It is monitored the discharge of gases, the pressure in the tank and the oil temperature. It has two contacts for each measured parameter.



Nem Alıcı (Silika Jel)

Sadece yağ genleşme deposu transformatörlerde kullanılır. Yağ hacminin azalması esnasında kazana giren havada bulunan nemin yağa karışmasını önler. Boyutları transformatör anma gücüne göre değişiklik gösterir.

The Breather (Silica Gel)

The breather is used only for transformer with conservator tank. In case of oil volume decreasing, the breather keeps the moisture of the air which enter to tank. The size of breather determined by the rated power of the transformer.



Alkollü Termometre

Alkollü termometre hermetik ve yağ genleşme deposu transformatörler için kullanılabilir. Yapısında herhangi bir kontak barındırmaz. Kapak üzerine kaynaklanan termometre cebine montajlanır.

Alcohol Thermometer

Alcohol thermometer can be used for hermetically sealed type or transformer with conservator tank. It is without contact. It is mounted in the thermometer pocket which welded on the transformer cover.



Manyetik Yağ Seviye Göstergesi

Yağ genleşme deposuna montajlanarak, yağ seviyesinin gözlemlenmesi için kullanılır. Opsiyonel olarak kontaklı modelleri de kullanılabilir.

Magnetic Oil Level Indicator

The magnetic oil indicator is used in order to display the level of the oil in conservator tank. If required, the level indicator with optional contacts can be used.



Kontaklı Termometre

Bu cihaz üzerinde 2 adet ayar kadranı ve 2 adet okuma kadranı olmak üzere toplam 4 adet kadran bulunmaktadır. Bu kadranlar; Anlık yağ sıcaklığını, Ulaşılan en yüksek sıcaklığı, İkaz sıcaklığını, Açma sıcaklığını gösterir. İkaz ve açma için 2 adet 5A 250 VAC kontaklı bulunmaktadır.

Thermometer with Contacts

This equipment has totally 4 dial plate. 2 plates for reading, 2 plates for setting. These plates monitoring; Oil temperature, .Max. measured temperature, Alarm temperature, Cut-off temperature. It has 2 pieces of 5A 250 VAC contacts for alarm and cut-off.



Basınç Emniyet Valfi

Sadece hermetik trafolarda kullanılır. Kazan iç basıncı, valfin ayarlandığı basınca ulaştığında açılarak dışarıya yağ tahliyesi yapar. Bu tahliye kazan iç basıncını düşürerek, muhtemel kazan yırtılmalarına engel olur.

Pressure Relief Valve

It is used only for hermetically sealed transformers. It opens briefly in the event of tank pressure equal to set pressure of the valve. This events protect the tank from possible tank damages.





E **TRME** **POWER** **TRANSFORMER**

İletişim / Contact Informations



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ANKARA - TÜRKİYE