



Distribution & Power TRANSFORMER

www.powertrac-bd.com



FASTEST GROWING BRAND IN ASIA

We manage your electricity

In last 50 years of our freedom few engineering industries has been contributing in our national economy. Transformer industry is one of them .Due to absence of supervision and patronization from national utility sector. This sector has faced ups and downs in most of the time.

This is such an industry without which we cannot use our huge power generation in our house or industries. POWERtrac Transformer has achieved unique respect from all in private and public sector due to its quality and services.

SPECIAL FEATURES OF POWERtrac TRANSFORMER :

- ▶ ECO Design quality R&D team to meet or exceed national standard.
- ▶ Scientific Management and process flow.
- ▶ Flexible to meet user's requirement.
- ▶ The noise level of self cooling is lowest over
- ▶ High service, High Reliability, High Safety.
- ▶ Low partial discharge and strong short circuit resistance.

OUR INFRASTRUTURE:

We have at least 3 Nos over head crane of 30 Mton, 10 Mton and 5Mton in our different shades.

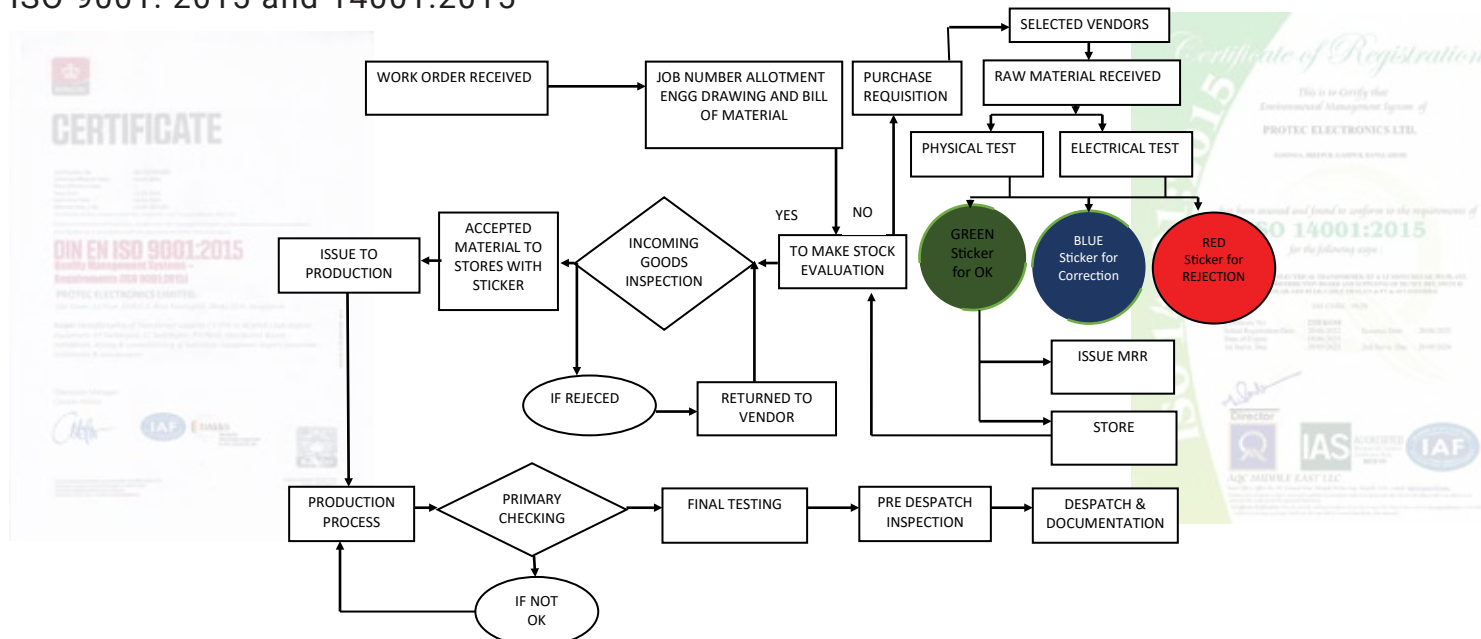
We have CNC operated slitting line of German George Technology, cut to Length Machine. More than 10 nos hydraulic and power press machine of different sizes.

We have independent high quality mould making facility with all machine and technology support which is the best in this country.

The metal casting facility of POWERtrac factory is unique which ensure zero- defect in making all accessories. Our In-house copper drawing and annealing support ensures best quality conductor for transformer.

POWERtrac QUALITY SYSTEM:

All POWERtrac transformers are manufactured in accordance with the quality system as per ISO 9001: 2015 and 14001:2015



POWERtrac manufactured Distribution Transformer, Power Transformer, Special Transformer are energy efficient, environment friendly, slim, cost effective and ensures low loss. This unit is located over five acres of land at Goshinga, Sreepur, Gazipur, Bangladesh. We have certified Engineers, Energy Auditors, Energy Managers to guide the best possible way of energy efficiency of our customers.

DESIGN AND DEVELOPMENT

Our Professional Designers and Engineers have award - winning experience in the designing of Distribution & Power Transformer, Switchgear & Control Panels. We deliver top-quality Transformers and Substation Equipment at prices the equivalent commercial firms can't match. Some of our design engineers are with BHEL & ALSTOM background.

Our design department is dedicated to develop the diversity of products as per needs and requirements of the market. POWERtrac R&D team is very active with talented and successful Engineers from institutions IIT, BUET, CUET, AIUB & McMaster University.



STANDARDS	: IEC-76, BS-171, ANSI C57.12, VDE 0537
FREQUENCY	: 50 Hz, on request
RATINGS	: For ratings higher than 50 MVA please consult us
PRIMARY VOLTAGE	: For values above 24 kV and up to 36 kV please consult us. Double high voltages (example 15-20 kV) can be offered
STANDARD TAPPINGS	: $\pm 2.5\%$; $\pm 5\%$ or $\pm 2 \times 2.5\%$; -7.5% and others on request
SECONDARY VOLTAGE	: 400 to 433 V other values may be offered. Double low voltages with 7 LV bushings can be offered with full rating on both voltages or with reduced rating (75%) on lowest voltage



On Load Tap Changer

Voltage Class	Upto 36 Kv
Current Rating	Upto 400 Amps
Number of Taps	17 and 9 Step
Number of Phase	3
Cooling Media	Natural Oil
Mounting	Top Mounting and Side Mounting



REMARKS: * Special designs may be studied on request.
 * We can offer transformers with reduced noise levels and no load losses
 * If after reading this brochure you have any questions, our engineers will gladly provide you with further information.

POWERtrac Transformers are Low Loss and High Efficient by using cold rolled grain oriented (CRGO) silicon high permeability steel. Transformer tank is filled with oil under vacuum thus improving the complete penetration of insulating liquid. The high coil-to-coil and low coil-to-ground capacitance ratio provides distribution of surge voltage over the entire coil, smart outlined by the latest methods of automatic machining. Copper, due to its inherent high conductivity, ductility, and strength has always been the ideal material for conducting electricity, all POWERtrac transformers are manufactured with pure electrolytic copper only. We have Talented Teams of Full Time Engineers from Home and Abroad.

- ▶ The conductivity of annealed copper is set equal to 100%. This means copper provides more current carrying capacity for a given diameter of wire than any other engineering metal.
- ▶ Copper resists corrosion. It will not decrease strength or conductivity under conditions of high humidity nor will it break down. The protective oxide which forms is a good conductor of electricity.
- ▶ Copper has excellent thermal conductivity and therefore stays cooler during current flow. This saves energy and promotes the dissipation of heat.
- ▶ We have in house training department and R&D team.
- ▶ Brilliant sourcing like direct relationship with POSCO & JFE.
- ▶ Crane Facility upto 30 mton.

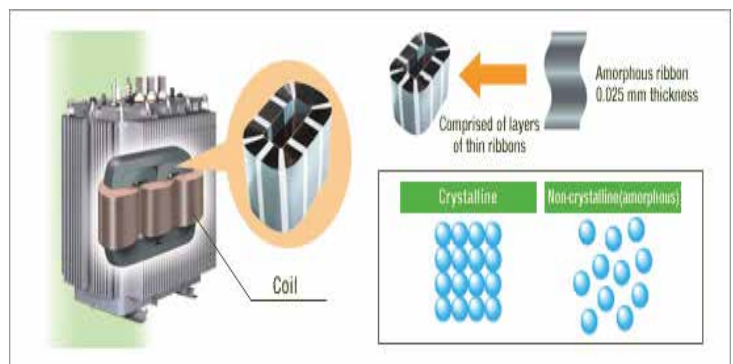
POWERtrac uses Amorphous Core in its Transformers. Amorphous core transformers reduce the impact on the global environment. The transformers use an amorphous alloy in their iron core which improves electrical characteristics and significantly reduces energy loss. The savings are equivalent to the amount of CO2 absorbed annually by about 370 cedar trees. This high level of energy conservation contributes to reducing CO2 emissions.

What is an amorphous core transformer?

Transformers operate 24 hours a day, seven days a week during which time they undergo constant losses of 2 to 4% of the Electricity that passes through them. This loss is divided into two different categories: load losses caused by the load on the transformer during the use of electricity and no-load losses (standby electricity) caused regardless of whether a load is present. Amorphous core transformers significantly reduce no-load losses by using an amorphous alloy for the iron core, which the transformer windings that carry the electricity are coiled.



Prime CRGO 75 to 95 grade



Magnetic Core

The core is built with laminations of high grade grain-oriented silicon steel. The special cutting and stacking methods result in low no-load losses and noise levels. The stacked core is reinforced with bandages or with studs, treated with a layer of glue (which contributes to the low noise level) and finally with a layer of paint (to protect against corrosion). George Technology, Germany, CANWIN Singapore designed CNC machine to cut laminations give better output in Transformer quality.

Winding

Circular type and rectangular type Windings are respectively used for relatively large or small type of transformers. Axial and Radial ducts of the winding allow the liquid insulation for cooling. It causes uniform heat dissipation due to losses. The round conductor windings consist of individually wound coil sections connected in series to produce phase winding. POWERtrac uses high grade imported copper for LT winding and export quality super enamel from Gazi Wires for HT windings.

Insulation

Insulation papers and Press Boards of high quality from Wiedmann, Switzerland are used for all POWERtrac brand Transformers. The moisture content of the insulation paper is very minimum. The careful drying system removes almost all moisture from the insulation structure and finally forms a complete transformer.

Radiator

POWERtrac has the complete Radiator Manufacturing Plants for both i) Pressed Steel Radiator, ii) Corrugated Type Radiator. We have our own DYE & MOULD section of world class accuracy.



CNC MACHINE



Cooling Sections

The cooling sections are made from 1.25 mm thick CRCA steel strips of drawing quality, in widths of 226 mm, 305 mm and 520mm. Each radiator is made-up of a number of sections spaced at 50 mm centres, the number to be determined by the transformer manufacturer depending upon the heat to be dissipated and the maximum allowable oil excess temperature. The radiators are generally made with number of sections varying from 3 to 24. Radiators with higher number of sections can also be manufactured against specific requirements.

Service Condition

Altitude: Up to 1000m above sea level and ambient air temperatures up to 45° C.

Limits of Temperature Rise

Ambient 40°C for the windings not exceeding 60°C for the top oil.

INTERNATIONAL RECOGNITION

POWERtrac got its successful Type Test Certification from Internationally recognized body CPRI, India for its Transformer.

QC/ Testing Facility

Routine pressure testing (under water) at 2.kg/cm² for 30 minutes is carried-out for all radiators. Type tests like hot -oil sweat' and 'vacuum' withstand tests are carried out periodically, or against specific requests by the customer. We are fully equipped for the testing of radiator as per MATS & DIN Standards.

- All instruments for dimension measurement.
- Thickness tester.
- Dry film thickness tester for paint, lacquer and galvanize.

Routine Test

POWERtrac test laboratory is approved by BSTI, Electricity Licensing Board of Energy Ministry and BUET. All test instruments are kept calibrated. Though all tests and checks are done during the production process and completed transformer. Following routine tests are conducted also:

- 1) Insulation Resistance test
- 2) Induced over Voltage test
- 3) Separate source Voltage Withstand Test: a) HV High Voltage test and b) LV Low Voltage Test
- 4) Turn Ratio Test, Polarity and phase relationship Test
- 5) HV and LV Resistance Test
- 6) No load current and No Load Loss Measurement Test
- 7) Load losses test at rated current and frequency.
- 8) Percentage impedance.
- 9) Core insulation test Insulating oil test
- 10) Function of tap changer test

Type test

Type Test (One in each lot).

- i) Temperature rise test.
- ii) Over load test.
- iii) Noise level test.
- iv) Oil leakage test.
- v) Heat Run test.

Special test

- i) Short-circuit test.
- ii) Un-balance current test.
- iii) Magnetic balance test.
- iv) Measurement of zero sequence impedance.
- v) Measurement of noise level.



WE MINIMIZE THE NO LOAD LOSSES BY STEP LAP CORE LAMINATIONS:

Step Lap Core Laminations reduce No Load loss, No Load current and noise level.

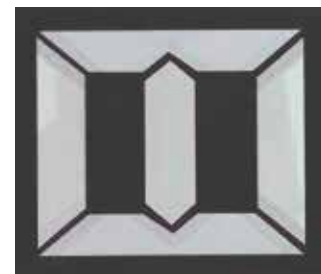
POWERtrac, we have the Expertise required to convert any Non-step Lap core design to efficient Step lap design.

There are two types of Step Lap Laminations that can be manufactured:

1. Vertical Step Lap
2. Horizontal Step Lap

* Step Lap Technology is a process to reduce the No Load Loss (NLL) up to 8% and No Load Current up to 12%

* Step Lap Lamination distribute the flux around the corner joints more effectively.



Cable Sealing Box

Both HV and LV bushing can be terminated in cable sealing boxes, manufactured in accordance with BS 2562 on top care. Normally distribution transformer bushings are kept top mounted without sealing.

Accessories

H.V Bushing with terminal connectors, L.V Bushing with terminal connectors, Tap changers, Conservator tank (only for the conservator type), Lifting-Lug, Thermometer (for 3 phase transformer), Silica gel breather for the conservator type, Pressed steel radiator, Name plate with connection diagram, Oil level Indicator, Oil drain plug, Earthing terminal, Buchholz relay, Gate valve. All Transformers above 2000 kVA are provided with OTI, WTI and separate marsheling box.



Conservator Protection Relay
(Aircel Leakage Detector)



Gas Collection Device



Gas Relay for Hermetically
Sealed Transformer



Valves for Gas Actuated Relays



Buchholz Relays



HT & LT Bushing and Resin Cast

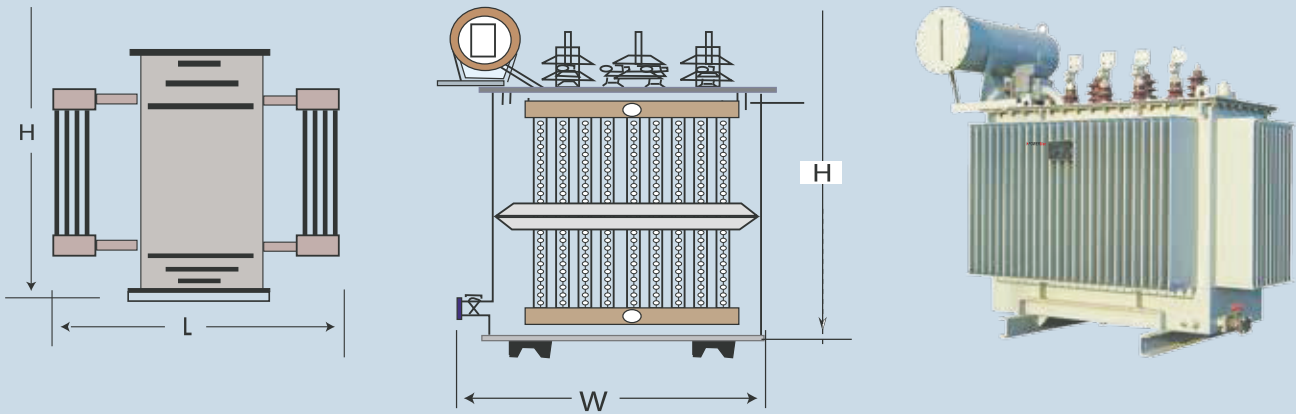


Insulation Nut and Bolt



Kraft Paper

Distribution transformers of POWERtrac are well respected in all utilities like BPDB, DPDC, WEST ZONE POWER CO, and DESCO. We have good experience of working with all Engineering Varsities like BUET, CUET, KUET, RUET in testing and knowledge exchange.



Physical Dimensions: Pressed Steel Radiator

Rating (kVA)	100	150	200	250	315	400	500	630	750	800	1000	1250	1500	2000	2500	3150/3000	5000	10000
Height (mm)	1350	1450	1600	1550	1600	1600	1650	1750	1990	1990	2050	2150	2250	2500	2600	2650	13500	28500
Width (mm)	900	1050	1000	1000	1230	1230	1530	1630	1600	1650	1850	1950	2050	2200	2350	2450		
Length (mm)	1200	1230	1320	1420	1300	1300	1570	1670	1650	1650	1870	1970	2070	2220	2540	2540		
Weight (kg)	600	760	1000	1150	1369	1400	1795	2540	2800	2875	3000	3900	4800	5650	8000	2800		

Physical Dimensions: Corrugated Radiator

KVA Rating	50	100	150	200	250	315	400	500	630	750	800	1000	1250
length	1130	1310	1380	1416	1465	1500	1660	1700	1935	1740	1860	1900	2100
width	650	660	678	708	750	770	835	910	930	960	950	1010	1100
height	1230	1440	1490	1600	1635	1760	1760	1750	1890	2020	2100	2230	2350
weight	540	800	780	1000	1100	1420	1460	1795	2460	2600	2850	3000	5180

L = Length, H = Height, W = Width (All dimensions are shown including radiator and conservator tank.)
Above dimensions and weight can be changed upto ±5% subject to change of design data though improvement is the part of our everyday activities

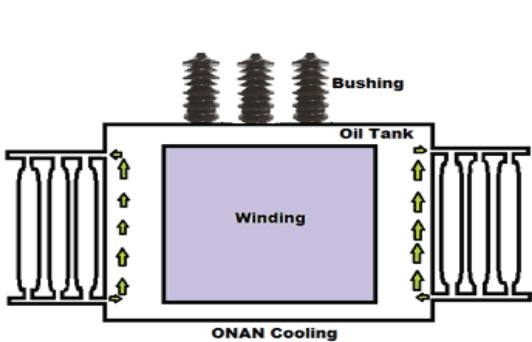
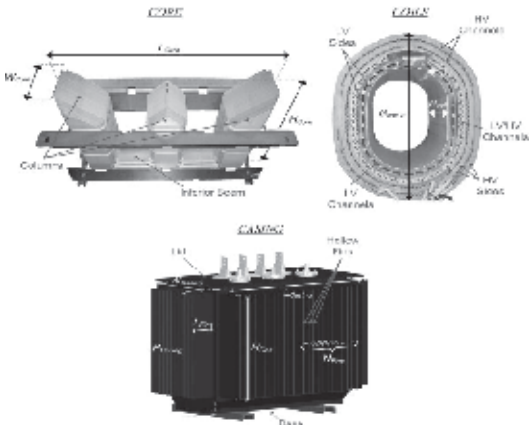


Figure 2.10: ONAN Cooling of Power Transformer



TYPE NO: TRACHD009

11/0.415 KV, 3 PHASE, 50 HZ

Rated Power	(KVA)	50	100	150	200	250	315	400	500	630	750	800	1000	1250	1600	2000	2500	3000
Model No.		FCNI50	FCNI100	FCNI150	FCNI200	FCNI250	FCNI315	FCNI400	FCNI500	FCNI630	FCNI750	FCNI800	FPYI1000	FPYI1250	FPYI1600	FPYI2000	FPYI2500	FPYI3000
NO Load loss	(W)	151	232	328	358	448	538	628	718	898	942	988	1165	1345	1615	1845	2245	2885
Load loss at 75°C	(W)	810	1350	1800	2520	2610	2970	3330	4230	5400	6300	6500	8100	9450	11700	13500	17100	23050
Imped.vol at 15°C	(%)	4	4	4	4	4	4.5	4.5	4.5	6	6	6	6	6	6	6	6	6
Regulation at p.f=1	(%)	1.75	1.41	1.3	1.10	1.08	1.04	0.987	0.941	0.987	0.9	1.03	1.00	0.98	0.95	0.93	0.90	0.83
Regulation at p.f=0.8	(%)	3.54	3.36	3.29	3.17	3.16	3.41	3.37	3.34	4.2364	4.27	4.33	4.31	4.30	4.28	4.26	4.24	4.23
Efficiency at p.f=1	At load 100%	(%)	98.00	98.42	98.6	98.79	98.81	98.89	98.95	99.00	99.05	99.04	99.03	99.06	99.09	99.12	99.15	99.19
	At load 75%	(%)	98.31	98.68	98.82	98.98	99.00	99.06	99.12	99.16	99.20	99.21	99.20	99.23	99.25	99.28	99.31	99.34
	At load 50%	(%)	98.52	98.85	98.98	99.11	99.13	99.29	99.23	99.27	99.31	99.34	99.33	99.35	99.38	99.40	99.43	99.46
	At load 25%	(%)	98.30	98.71	98.83	98.98	99.02	99.08	99.13	99.17	99.22	99.31	99.29	99.32	99.36	99.39	99.42	99.46
Efficiency at p.f=0.8	At load 100%	(%)	97.50	98.03	98.26	98.48	98.51	98.61	96.68	98.75	99.81	98.8	98.78	98.83	98.86	98.90	98.94	98.99
	At load 75%	(%)	97.89	98.34	98.53	98.72	98.75	98.83	98.98	99.95	99.00	99.01	99.00	99.03	99.07	99.10	99.13	99.17
	At load 50%	(%)	98.15	98.56	98.72	98.88	98.91	98.98	99.04	98.09	99.13	99.18	99.16	98.19	99.23	99.25	99.29	99.32
	At load 25%	(%)	97.88	98.38	98.55	98.73	98.77	98.85	98.91	98.97	99.02	99.14	99.12	99.15	99.21	99.24	99.28	99.32

TYPE NO: TRACND008

11/0.415 KV, 3 PHASE, 50 HZ

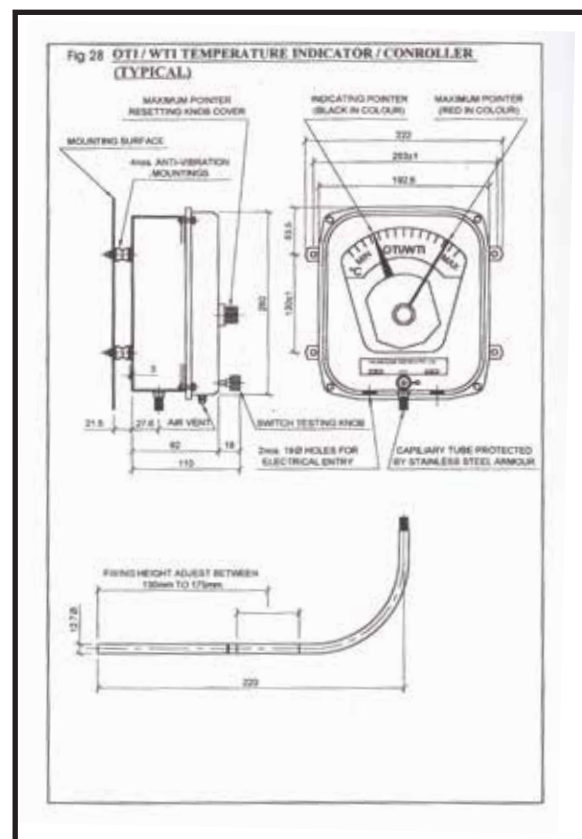
Rated Power	(KVA)	50	100	150	200	250	315	400	500	630	750	800	1000	1250	1600	2000	2500	3000
Model No.		FCNE50H	FCNE100H	FCNE150H	FCNE200H	FCNE250H	FCNE315H	FCNE400H	FCNE500H	FCNE630H	FCNE750H	FCNE800H	FPYE1000H	FPYE1250H	FPYE1600H	FPYE2000H	FPYE2500H	FPYE3000H
No Load loss	(W)	160	250	345	444	520	560	650	740	950	980	1020	1250	1460	1630	1750	2030	2710
Load loss at 75°C	(W)	1000	1750	2000	2920	3250	3630	3920	4750	5850	6740	7230	9950	12320	14300	15700	18860	24300
Imped.vol at 15°C	(%)	4.35	4.75	4.75	4.75	4.75	4.75	4.75	4.75	6	6	6	6	6	6	6	6	6
Regulation at p.f=1	(%)	1.94	1.68	1.50	1.36	1.29	1.23	1.16	1.10	1.06	0.94	1.14	1.15	1.16	1.16	1.16	1.16	0.93
Regulation at p.f=0.8	(%)	4.15	3.98	3.88	3.79	3.75	3.71	3.67	3.63	3.60	4.3	4.41	4.42	4.42	4.43	4.43	4.43	4.43
Efficiency at p.f=1	At load 100%	(%)	97.74	98.09	98.30	98.47	98.55	98.63	98.71	98.78	98.84	98.93	98.86	98.85	99.85	98.88	98.89	98.92
	At load 75%	(%)	98.20	98.27	98.52	98.69	98.75	98.82	98.89	99.96	99.01	99.09	99.04	99.04	99.03	99.04	99.08	99.10
	At load 50%	(%)	98.46	98.45	98.62	98.75	98.87	98.94	99.00	99.06	99.10	99.19	99.16	99.7	99.17	99.18	99.23	99.27
	At load 25%	(%)	98.13	98.27	98.25	98.57	98.63	98.72	98.79	98.86	99.92	99.04	99.04	99.06	99.07	99.09	99.21	99.28
Efficiency at p.f=0.8	At load 100%	(%)	97.19	97.61	97.89	98.09	98.19	98.28	98.38	98.48	98.54	98.67	98.57	99.56	98.56	98.56	98.60	98.62
	At load 75%	(%)	97.76	97.97	98.15	98.36	98.44	98.53	98.61	99.69	98.76	98.87	98.80	98.80	98.79	98.80	98.85	98.88
	At load 50%	(%)	98.10	98.18	98.28	98.52	98.59	98.67	99.75	98.82	98.88	98.99	98.95	98.96	98.96	98.97	99.04	99.09
	At load 25%	(%)	97.72	97.83	97.82	98.21	98.29	98.40	98.48	98.57	98.65	99.80	99.80	98.83	98.84	98.86	99.01	99.10

"O" for TRANSFORMER WITH ON LOAD TAP CHANGER
 "F" for TRANSFORMER WITH OFF LOAD TAP SWITCH
 "C" for TRANSFORMER WITH CORRUGATED TANK
 "P" for TRANSFORMER PRESSED STEEL RADIATOR
 "Y" for TRANSFORMER WITH ACCESSORIES (PRV & BUCHHOLZ RELAY)

"N" for TRANSFORMER WITHOUT ACCESSORIES
 "R" for TRANSFORMER FOR CPRI TESTED QUALITY
 "I" for TRANSFORMER FOR HEAVY DUTY USE
 "E" for TRANSFORMER WITH RESIDENTIAL & COMMERCIAL USE

Note: We can meet any special requirements in no load loss and full load loss within IEC/ IEEE

We are also offering ONAN Transformer with ONLOAD Tap Changer (OLTC) from CTR, India, Ehsan-MR, India and MR Germany. These Transformer are equipped with double chamber oil tank and with a separate Control Panel of Automation, We can also offer DRY TYPE Transformer with OLTC.



5 MVA & 11/14 MVA & 20/28 MVA TRANSFORMERS SAMPLE SPECIFICATIONS

Rated Power	5MVA	10/14 MVA	20/28MVA
Duty	Continuous	Continuous	Continuous
Type	3	3	3
Rated Frequency	50Hz	50Hz	50Hz
Rated Voltage HV/LV	33/11 kV	33/11 kV	33/11 kV
Type Of Cooling	ONAN	ONAN/ONAF	ONAN/ONAF
Vector group numerical Index	Dyn-11	Dyn-11	Dyn-11
Losses (No-load/full-load) (Approx.)	5.04/30 kW	9.5/70 kW	15/98 kW
Tap Changing	OFF Load and ON Load		
Impedance Voltage (principal) tap. 75 C (HVILV)	8% (max)	10% (max)	12.5 (max)
System highest voltage H.V. Winding	36 kV	36 kV	33 kV
L.V Winding	12 kV	12 kV	11 kV
Basic insulation level:			
HV/LV	170/95 kVP	170/95 kVP	170/95 kVP
Power frequency test for HV/LV	70/28 kV	70/28 kV	70/28 kV



Winding Machine



Fiber laser cutting machine



30 Ton & 5 Ton Crane



Shapper Machine

COMPACT SUBSTATION AND TROLLEY MOUNTED SUBSTATION

POWERtrac manufactures Trolley Mounted Substation as well as Compact Substations on regular basis.

In Trolley Mounted Units 11 kV Isolator / LBS / RMU, Appropriate Transformer, LT Switchgear cum PFI Unit with proper Wheel and Brakes are used.

POWERtrac's Compact Substation uses MV Switchgear of ABB/SCHNIEDER make Breakers/RMU ; Transformer of appropriate rating followed by LT Switchgear as per Customer's requirement.

Both these Equipment go through stringent Quality Checks and Controls during and after manufacture before these are declared fit for handing over to Customer.

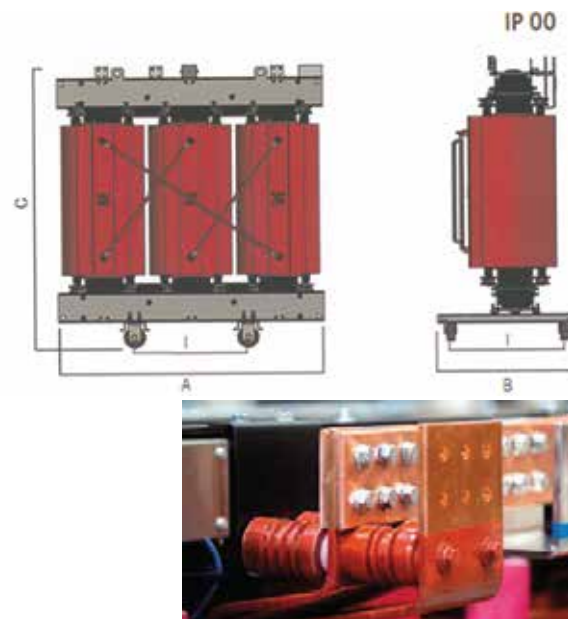


CAST RESIN TRANSFORMER (CRT)

POWERtrac is Offering Cast Resin transformer ensuring modern design and international testing facilities. Our Cast Resin Transformer are made with the design and technical support from over seas companies as well as our own factory.

Features

- * Compact
- * Easy maintenance
- * Environment friendly
- * Fire proof apart from toxic or generated gases, during fire
- * Design to withstand the highest mechanical short circuit stress that may occur in service Both high and low voltage coil windings are cast to prevent humidity
- * High resistance against over voltage
- * Low decibel
- * Smaller in size



Applications

- * Substations
- * Underground markets
- * Water purification plants
- * Petrochemical plants
- * High rise buildings
- * Theatres
- * Power plants
- * Waste treatment plants
- * Hospitals
- * Apartment
- * Other plants (Welders, Rolling mills)

Technical Considerations

General Design and Electrical Characteristics:

- Aluminium volume = 1.8 x copper volume
- Aluminium surface area = 1.3 x copper surface area
- Aluminium mass = 0.55 x copper mass
- Aluminium specific heat = 2.43 x copper specific heat
- Aluminium core mass = 1.15 x copper core mass
- Aluminium transformer is marginally larger than copper transformer
- Aluminium transformer mass is practically equal to copper transformer mass

CAST RESIN DRY TYPE TRANSFORMER DATA

Sl.	Rating	Max. Loss @ 50% loading	Max. Loss @ 100% loading	% Z	IPDimensions (in MM)				Weight
No.	KVA	Watts	Watts	@120°C	A	B	C	D	KG
01	100	940	2400	4.0%	1100	600	1100	520	700
02	160	1290	3300	4.0%	1200	600	1200	520	850
03	200	1500	3800	4.0%	1200	600	1250	520	1000
04	250	1700	4320	4.0%	1250	600	1400	520	1100
05	315	2000	5040	4.0%	1300	750	1400	670	1200
06	400	2380	6040	4.0%	1300	750	1500	670	1400
07	500	2800	7250	4.0%	1350	750	1550	670	1500
08	630	3340	8820	4.0%	1450	850	1600	670	1900
09	750	3880	10240	5.0%	1500	850	1750	670	2100
10	1000	4500	12000	5.0%	1600	1000	1850	820	2700
11	1250	5190	13870	5.0%	1700	1000	2100	820	3200
12	1600	6320	16800	6.0%	1800	1000	2200	820	3700
13	2000	7500	20000	6.0%	1900	1300	2400	1070	4700
14	2500	9250	24750	6.0%	2000	1300	2500	1070	5500

▶ Reference temperature for Load Losses 120 °C

▶ Indicative data. POWERtrac reserves the right to modify the data without prior information.

Transformers are critical components in solar energy production and distribution. Historically, transformers have “stepped-up” or “stepped-down” energy from non-renewable sources. There are different types of solar transformers including distribution, substation, pad mounted and grounding. All solar transformers have specialized needs that impact costs. Normally these type of transformers are accommodated by devices that measure heat related volume variations.

The Solar Transformer is quick to deploy and easy to use, giving you renewable energy wherever you need it. Solar power is stored in a sophisticated onboard energy storage and distribution system. It can power a household or office, or be used as a portable energy station.

Solar Applications

Powertrac understands the needs of the solar developers and has successfully designed Transformers for Power Distribution Applications in solar farm using PV modules in. The transformers are specially designed with low losses but high efficiency standards to meet the industry's stringent demands.

The Solar Transformer can be used as a stationary power station to power a home or office, or even a factory for high-capacity portable power.



Features

- Rating : upto 3 MVA
- HV Voltage : 11, 22 & 33 or as per customer requirement.
- LV Voltage : 0.30, 0.38, 0.420, 0.433, 0.750, 1.05, 6.6 or as per customer requirement
- Vector Group : Dy11, Y11, Dy5 or as per customer requirement
- Voltage step-up : from the inverter output to the MV feeding network
- Cooling system : natural or air forced
- Others :
 - Robust and oil tight mechanical construction with customised overall dimensions
 - High quality surface protection
 - Protection & monitoring with devices that offer oil level indication, gas detection,
 - pressure and temperature control

We have all the 3E (Equipment, Experience & Expertise) to offer Energy Efficient Transformers (EET) for power saving with complete payback analysis. These transformers have a proven and reliable design which ensures an economical life of the transformer for more than 20 years. The Energy Efficient Transformer reduces your electricity bill by reducing the total losses as shown in the following example.

PAYBACK ANALYSIS IF YOU BUY POWERtrac TRANSFORMERS

(Case study 5MVA & 200kVA)

Considering Full Load Utilization factor =1	5000kVA	200kVA
No Load Loss 3.6kW + F. Load Loss 19kW	3.6+19=22.6kW	0.360+2.82=3.18kW
A1 Contribution of Transformer loss in Electricity Bill in 1 year(24X365=8760hrs) due to losses (Tk.)	1X8.15X8760X22.6= TK 16,13,504.40	1X8.15X8760X3.18= TK 227,032.92
B Lose of Commercial Design Transformer (Ordinary Transformer)	4.8+31=35.8kW	0.56+5.4=5.96kW
Total Loss= No Load Loss + Load Loss		
B1 Contribution of Transformer loss in Electricity Bill in 1 year(24X365=8760hrs) due to losses (Tk.)	1X8.15X8760X35.8= TK 2,555,905.2	1X8.15X8760X5.96= TK425,508.24
X Yearly Saving due to POWERtrac Transformer (B1-A1) (Tk.)	942,400.80	198,475.32
P1 Approx. Price of POWERtrac 5MVA or 200 kVA Transformer	63,00,000.00	4,00,000.00
P2 Price of commercial Design Transformer (Ordinary Transformer)	45,00,000.00	3,00,000.00
P1-P2 Price Difference for Energy Efficient Design (Tk.)	18,00,000.00	100,000.00
PB Payback period in years (price difference/Savings per year) (P1-P2)/X	1.91 Year	0.5 Year
Payback period (months) (PBX12)	22 Month	6 Month





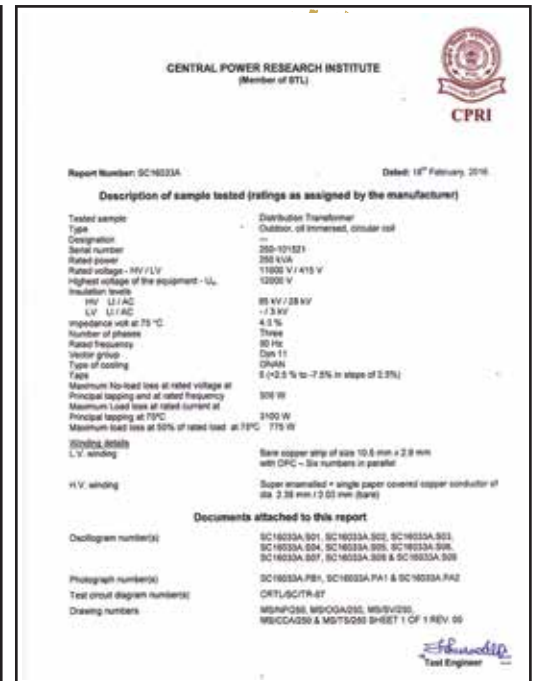
CERTIFICATIONS



(ISO-9001:2015)



(CPRI TEST-200 KVA)



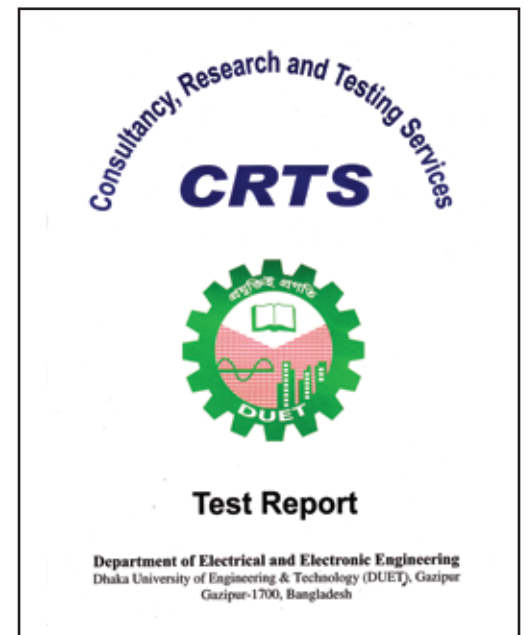
(CPRI TEST-250 KVA)



(DUET TEST-10/12.5MVA)



(KUET TEST)



(DUET PANEL TEST)



(ISO-14001:2015)



(MIST TEST)



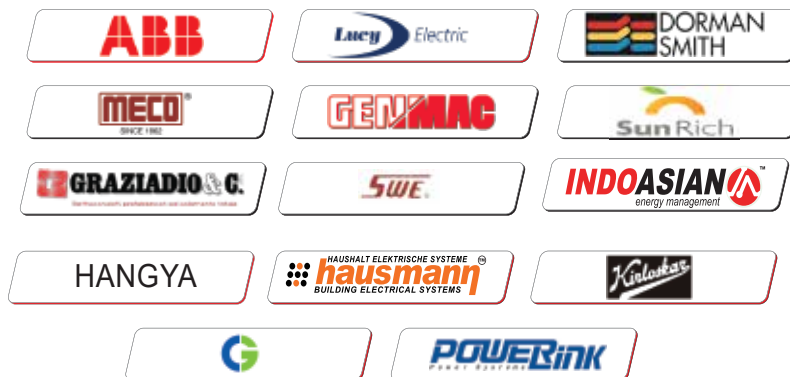
(CUET TEST)



(MILL TEST CERTIFICATE)



OUR STRATEGIC PARTNERS:



Protec Electronics Ltd.
Protec Power Systems
knoprotec.com
ohmistiry.com

Protec Electronics Ltd.

Head Office:

CNS Tower, 1st, 2nd & 3rd Floor
 43/R/5-A, West Panthapath
 Dhaka-1215, Bangladesh.
 Phone : +88 02 2222 41655, 2222 40061
 E-Mail : info@powertrac-bd.com
 Web : www.powertrac-bd.com

Branch Office (Chittagong):

FLAT # B (4th Floor)
 ALTAH GARDEN,
 KUSUMBAGH R/A ,
 Chittagong, Bangladesh
 Cell # +88 01974655046
 +88 01974655050

Khulna:

39. K.D.A Avenue, 1st Floor,
 Khulna-9000, Bangladesh.
 Cell: +88 01974655003

Bogra:

60/62, Sherpur Road,
 Satmatha, Bogra, Bangladesh.
 Cell: +88 01974655029

Gazipur:

Ahsania Super Market, 1st Floor,
 Vogra, Dhaka Bypass,
 Bishwa Road Moar, Gazipur
 Cell: +88 01975655549

Sylhet:

9th floor, 1008 west world shopping city,
 Zindabazar, Sylhet, Bangladesh.
 Cell: +88 01974655061

Factory:

Goshinga, Sreepur, Gazipur
 Cell: +88 01975655557

