POWERtrac
SUBSTATION, GENERATOR, SOLAR & METER

THE BEST
TRANSFORMER
OF BANGLADESH

SWE ABB DORMAN SMITH GENMAC RTR INDOASIAN energy management Lucy Electric MECO

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OUR MILESTONES

Empowering industries and communities, POWERtrac continues to set benchmarks in transformer technology and energy solutions. Each milestone reflects our commitment to innovation, quality, and excellence.

2025 : 3150 KVA 4MVA Cast Resin Transformers are strated to manufacture.

2024 : POWERtrac commissioned a 6.5 MVA transformer at Bangladesh Edible Oil Limited, along with two 2.5 MVA transformers. The company also started production of dry-type resin cast transformers (750 kVA to 1600 kVA) and began manufacturing CT PT units and 75 kVA dry-type V.P.I. transformers.

2023 : POWERtrac successfully commissioned a 12.5 MVA 33/11 kV transformer with Mr. Germany OLTC and 4 MVA and 2.5 MVA transformers at Meghna Rubber Industries. Additionally, a 5.5 MVA transformer was commissioned at ICCL, and compact substations (250 kVA and 315 kVA) were installed at Bangabandhu Sheikh Mujibur Rahman Tunnel.

2022 : POWERtrac completed the installation of a 5 MVA transformer at Sharmin.

2021 : POWERtrac commissioned a 4 MVA 33/11 kV transformer at Matbor and a 6 MVA 33/11 kV transformer at Spectra, along with a 4 MVA 11/6.6 kV transformer.

2020 : POWERtrac commissioned a 3 MVA 33/11 kV transformer at Ashta Feed.

OUR INFRASTRUCTURE

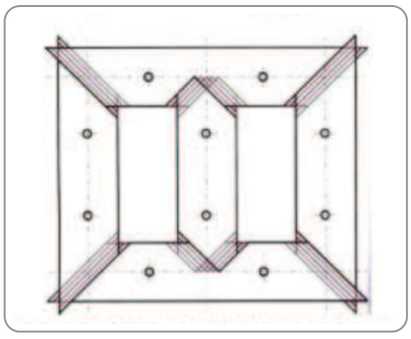
Our factory shaded area 75000SFT and Total area 180000SFT.

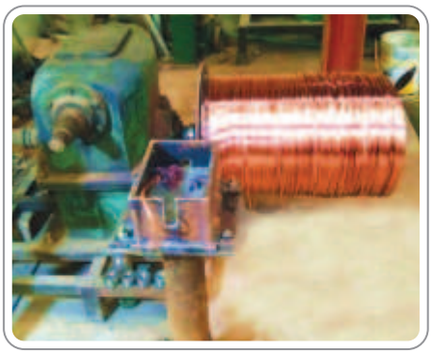
- Annual Manufacturing Capacity- 600 MVA.
- Certification: ISO 9001 : 2015 ISO 14001 : 2015
- Transformer- 50KVA - 50 MVA

MATERIAL PROCUREMENT

01. CORE

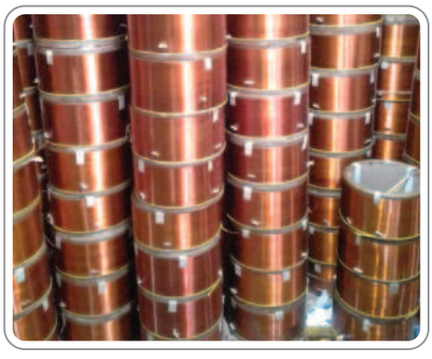
We source cores from JFE (Japan) and POSCO (Korea) with 0.23 mm and 0.27 mm thickness, employing a mitre step lap design to reduce no-load loss.

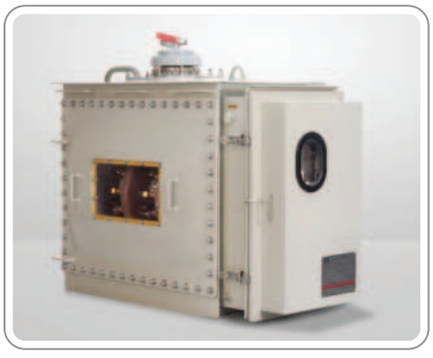




02. COPPER

For LT windings, we use Coppertech copper rods processed in-house with copper drawing & insulation covering machines, while HT windings utilize enam-eled copper wires from RR & BRB.





03. OLTC

On-Load Tap Changers are supplied by M.R. (Germany) and CTR (India).

04. MS SHEET

MS sheets are sourced from POSCO (Korea) and Tata Steel (India).

05. INSULATION PAPER

Insulation papers are sourced from ABB and Umang, both from India.

06. TRANSFORMER OIL

We use Savita transformer oil from India.

POWER TRANSFORMER

- Prime grade, non laser, silicon steel (CRGO).
- CNC Machines for sliting , angular cut and V-Knotch to ensure high performance, low no-load loss & low sound.
- Horizontal & vertical laps (7 step) used for low no-load loss.
- High quality enameled wire or paper wraped flat copper strip are used as conductor for spiral type, disc type, helical type coil.
- Circuler & reactangular type windings are used.
- Insulation papers, press board & crape paper of high quality from ABB (India) to reduce moisture.
- POWERtrac has the complete radiator manufacturing plants for both-
  - i) Pressed steel radiator.
  - i) Conrrugated radiator.
- POWERtrac has been using SAVITA/HYREX brand transformer oil for cooling purpose.

20/28 MVA Power Transformer

DISTRIBUTION TRANSFORMER

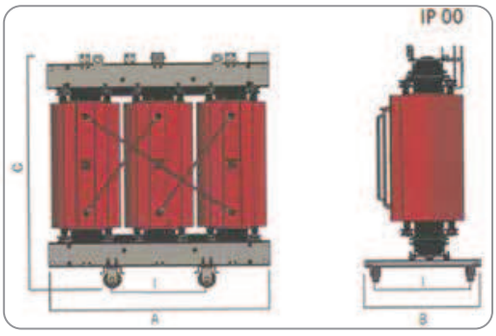
POWERtrac offers a complete range of distribution transformers suited to both indoor and outdoor applications in utility, industry and infrastructure. The standard range includes Three Phase Transformers 50 to 1000 kVA that meets the requirement of IEC standards. Tailor made Transformer are available, offering the "Maximum Value for Money" solution.

- Low flux density to reduce no load loss
- Highest efficiency at 50% load.
- Winding material copper.
- Used corrugated radiator to reduce overall size.
- Tank fabrication totally done by laser machine.
- Low maintenance designs that are built for trouble-free operation.
- Quick delivery with international quality at reasonable prices.
- High reliability for lifetime.
- Greater value for money.
- Compact.

DRY TYPE TRANSFORMER

POWERtrac is offering Dry Type Transformer ensuring modern design and international testing facilities. Our Dry Type Transformer are made with the design and technical support from over seas companies as well as our own factory.

- Compact.
- Easy maintenance.
- Stress that may occur in service both high & low voltage coil windings are cast to prevent humidity.
- Used 1pcs step lap core to reduce sound.
- Smaller in size.
- Super low consumption, energy enconomized, high power rate.
- Winding material copper/aluminium as per customer requirements.
- Operating temperature stays low, insulation aging slow, transformer service lifes long.
- IP64, IP54, IP65 as per customers requirement.



APPLICATION

Sub-stations, Underground markets, High rise buildings, Theatres, Power plants, Waste treatment plants, Hospitals, Apartment.

DRY TYPE TRANSFORMER LOAD LOSS CHART (11 kV ±2X2.5%)/415V, Dyn11:

RATED CAPACITY (KVA)	DIMENSIONS (IN MM)				WEIGHT	LOSS VALUES FOR S10 SERIAL TRANSFORMER		IMP
	A	B	C	D	KG	NO LOAD LOSS (KW)	LOAD LOSS (75°C) (KW)	
100	1100	600	1100	520	700	0.45	1.2	4
160	1200	600	1200	520	850	0.50	1.8	4
200	1200	600	1250	520	1000	0.62	2.1	4
250	1250	600	1400	520	1100	0.68	2.7	4
315	1300	750	1400	670	1200	0.75	3.4	4.5
400	1300	750	1500	670	1400	0.85	4.3	4.5
500	1350	750	1550	670	1500	1	5.3	6
630	1450	850	1600	670	1900	1.06	6.3	6
800	1500	850	1750	670	2100	1.25	7.5	6
1000	1600	1000	1850	820	2700	1.5	9.1	6
1250	1700	1000	2100	820	3200	1.8	11	6.5
1600	1800	1000	2200	820	3700	2.15	13.5	6.5
2000	1900	1300	2400	1070	4700	2.45	16	6.5
2500	2000	1300	2500	1070	5500	2.9	19	6.5

ELECTRICAL SPECIFICATION

TYPE NO: 1

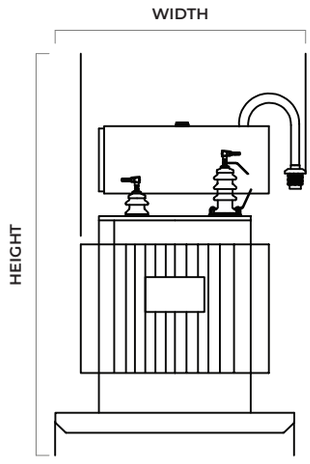
Rated Power		(KVA)	50	100	150	200	250	315	400	500	630	750	1000	1250	1500	2000	2500	3000
Model No.																		
NO Load Loss		(W)	200	350	450	550	600	700	800	900	1050	1150	1300	1500	1800	2100	2500	2800
Load Loss		(W)	1200	1800	2700	3500	4200	5000	6500	7500	9500	11000	12500	15000	18500	21000	26000	29000
%Imp Volt at 75°C		(%)	4	4	4	4	4	4.5	4.5	5.5	5.5	5.5	5.5	5.5	6	6	6.5	6.5
Regulation at P.F= 1		(%)	2.4	1.8	1.8	1.75	1.68	1.59	1.625	1.5	1.51	1.47	1.25	1.2	1.23	1.05	1.04	0.96
Regulation at P.F=0.8		(%)	3.85	3.60	3.60	3.57	3.88	3.83	3.84	4.3	4.43	4.41	4.27	4.23	4.59	4.47	4.78	4.73
Efficiency at P.F= 1	At Load 100%	(%)	97.28	97.90	97.94	98.02	98.12	98.22	98.21	98.35	98.35	98.61	98.64	98.70	98.66	98.86	98.87	98.95
	At Load 75%	(%)	97.72	98.22	98.28	98.35	98.44	98.54	98.54	98.65	98.66	98.88	98.90	98.95	98.93	99.08	99.09	99.16
	At Load 50%	(%)	98.04	98.43	98.52	98.60	98.70	98.78	98.80	98.90	98.92	99.09	99.12	99.17	99.15	99.27	99.29	99.33
	At Load 25%	(%)	98.02	98.35	98.51	98.60	98.73	98.81	98.87	98.97	99.02	99.17	99.20	99.25	99.24	99.34	99.36	99.41
Efficiency at P.F= 0.8	At Load 100%	(%)	96.62	97.38	97.44	97.53	97.66	97.79	97.77	97.94	97.95	98.27	98.30	98.38	98.34	98.58	98.60	98.69
	At Load 75%	(%)	97.17	97.78	97.86	97.94	98.06	98.18	98.18	98.32	98.34	98.60	98.63	98.69	98.66	98.85	98.87	98.95
	At Load 50%	(%)	97.56	98.04	98.16	98.24	98.38	98.48	98.51	98.63	98.66	98.87	98.72	98.96	98.94	99.09	99.11	99.17
	At Load 25%	(%)	97.32	97.74	97.98	98.11	98.30	98.42	98.51	98.65	98.71	98.92	98.92	99.03	99.02	99.15	99.18	99.24

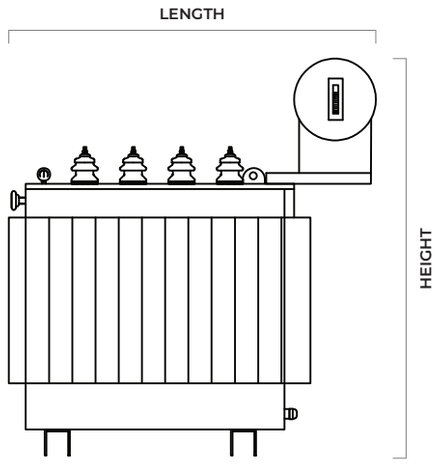
TYPE NO: 2

11/0.415 KV, 3 PHASE, 50 HZ

Rated Power		(KVA)	50	100	150	200	250	315	400	500	630	750	800	1000	1250	1500	2000	2500	3000
Model No.		I for PNN	I 50IU	I 100IU	I 150IU	I 200IU	I 250IU	I 315IU	I 400IU	I 500IU	I 630IU	I 750IU	I 800IU	I 1000IU	I 1250IU	I 1500IU	I 2000IU	I 2500IU	I 3000IU
NO Load Loss		(W)	153	234	330	360	450	540	630	720	900	945	990	1170	1350	1620	1845	2250	2880
Load Loss at 75°C		(W)	810	1350	1800	2520	2610	2970	3330	4230	5400	6300	6500	8100	9450	11700	13500	17100	24300
%Imp Volt at 75°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	99.09
	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	99.26	99.31	99.34	99.26
	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	99.04
	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	99.41
Efficiency at P.F= 0.8	At Load 100%	(%)	97.50	98.03	98.26	98.48	98.51	98.61	98.68	98.75	99.81	98.8	98.78	98.83	98.86	98.90	98.94	98.99	98.87
	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	98.08
	At Load 50%	(%)	98.15	98.56	98.72	98.88	98.91	98.96	99.04	98.09	99.13	99.18	99.16	98.19	99.23	99.25	99.29	99.32	99.25
	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	99.26

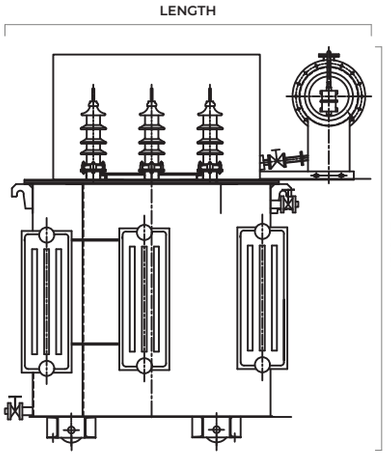
TRANSFORMER DIMENSSION

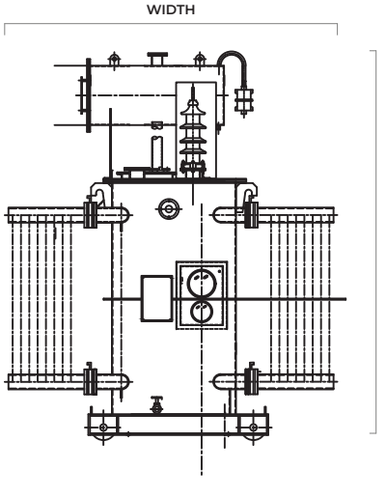




PHYSICAL DIMENSIONS: CORRUGATED RADIATOR

RATING (KVA)	50	100	150	200	250	315	400	500	630	750	800
WEIGHT (KG)	450	600	760	1000	1150	1420	1460	1795	2200	2400	2800
HEIGHT (MM)	1200	1300	1400	1480	1500	1550	1550	1680	1770	1900	2000
WIDTH (MM)	650	700	750	750	750	750	800	800	850	900	950
LENGTH (MM)	1150	1270	1300	1450	1490	1550	1650	1680	1800	1900	1900

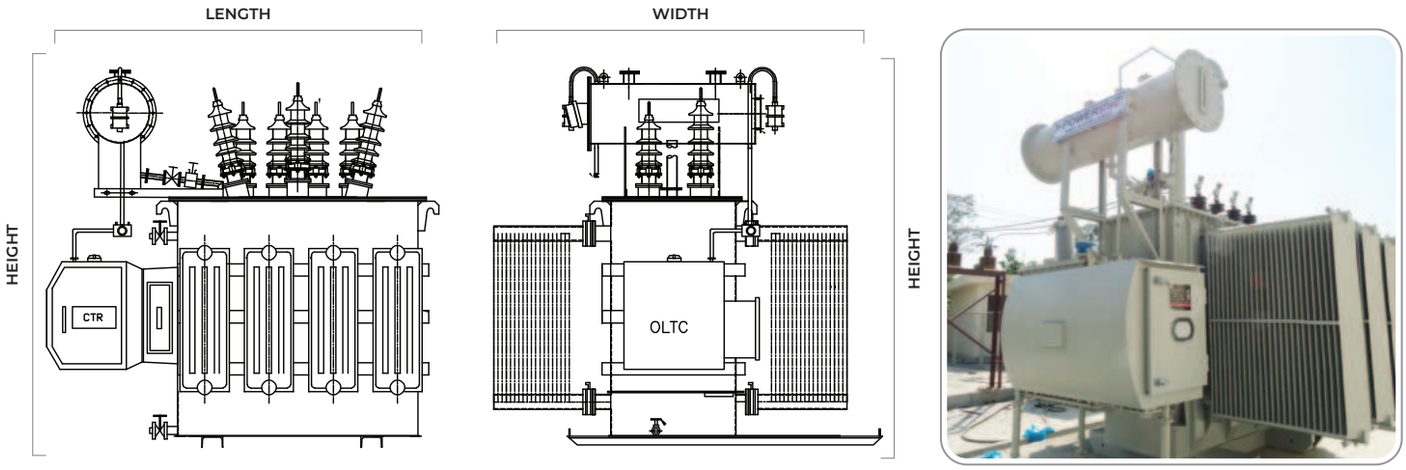




PHYSICAL DIMENSIONS: PRESSED STEEL RADIATOR

RATING (KVA)	1000	1250	1500	2000	2500	3000	4000
WEIGHT (KG)	3400	4100	5050	6400	7500	8000	10000
HEIGHT (MM)	2100	2300	2500	2625	2800	3100	3100
WIDTH (MM)	2000	2350	2490	2600	2800	2850	3000
LENGTH (MM)	1900	2250	2400	2500	2550	2750	2900

POWER TRANSFORMER WITH OLTC



PHYSICAL DIMENSIONS: 33/11KV OLTC TRANSFORMER

RATING (MVA)	LENGTH (MM)	WIDTH (MM)	HEIGHT (MM)	WEIGHT (TON)	REMARKS
5 MVA	3450	3200	3300	12.3	with CTR OLTC
6.5 MVA	3700	3200	3500	15.5	with CTR OLTC
7.5 MVA	3700	3500	3600	18.0	with CTR OLTC
10 MVA	4360	3700	3800	21.0	with CTR OLTC
12.5 MVA	4500	3700	4000	23.5	with CTR OLTC
15 MVA	4500	3800	4300	25.0	with CTR OLTC
20/28 MVA	4200	3200	4200	40.0	with CTR OLTC
50 MVA (132KV)	7310	5400	6500	65.0	with CTR OLTC

Our Power Transformers with On-Load Tap Changer (OLTC) ensure seamless voltage regulation, delivering uninterrupted power to substations, industrial plants, and utility networks. Designed for high efficiency and durability, these transformers guarantee superior performance in demanding conditions.

Key Features & Benefits

- **Precision Voltage Control** – Maintains stable power distribution under varying loads.
- **High Efficiency & Low Losses** – Optimized for energy savings and long-term performance.
- **Robust & Durable Design** – Engineered to withstand extreme operational conditions.
- **Tested & Certified** – Rigorously type and routine tested, meeting IEC and ANSI standards for quality and safety.

With cutting-edge technology and strict quality control, our OLTC transformers provide a dependable, high-performance solution for modern power systems. Power up with confidence!

AUTOMATIC VOLTAGE REGULATOR:

This comprises basically the following major components.

- Rolling contact type voltage regulator.
- Buck/boost transformer.
- Automatic control gear comprising driver motor and electronics voltage sensing relay.

The variable input is boosted up or bucked down incessantly to the required level through the series winding of the buck/boost transformer. Application of the Automatic Voltage Regulator are voltage control, providing stable voltage to pump motors thereby maintaining proper output and increasing efficiency, providing stable voltage to cold storages, providing stable voltage to tea processing machinery, computers, defence equipment, electronics components processing etc

ADVANTAGE

- Saving in energy.
- Constant voltage output with accuracy ±1%.
- Lesser failure of electrical equipment.
- Improvement in power factor and reduction in MDI.
- Less production loss & better efficiency in plant.
- Better utilization of existing transformers and cables.

COMPACT SUB-STATION (CSS):

POWERtrac is also offering Compact Substation in a single cabinet (RMU, HT Switchgear, Transformer, LT, PFI, DB, MDB).

- Moveable Sub-station.
- Indoor & outdoor installation facilities.
- Doesn't require any structure.
- Plug & play type.
- Fully interlocked.
- Compartment doors with natural vantilation.
- Lifting by frocklift or crane possible.
- IP22D for transformer compartment.
- IP34D for HV & LV compartment.
- Low space requirement.
- Low installation cost.
- Less amount of cable required.

250kV Compact Sub-station (Karnafuli Tunnel)

TRANSFORMER ROUTINE TEST:

- Measurement of Insulation Resistance
- Measurement of Voltage Ratio
- Measurement of Vector Group Test
- Measurement of Winding Resistance
- Measurement of No Load Loss & No load current
- Measurement of Full Load Loss
- Percentage of impedance Voltage.
- Power Frequency Withstand test
- Induced Over Voltage Test.
- Dielectric Strength of Oil
- Temp Rise test (heat Run test optional)
- Test on OLTC
- Magnetic Balance Test
- Testing on Protective Accessories Like B.relay,PRV, O.T.I, W.T.I
- Vaccum leak test on Radiator & Tank
- OLTC Controller

100KV Hi Pot

Meggar MIT1025

MTO210 Winding Resistance Test Set

DILO SF6 Multi-Analyzer

Digital Iron Loss Tester

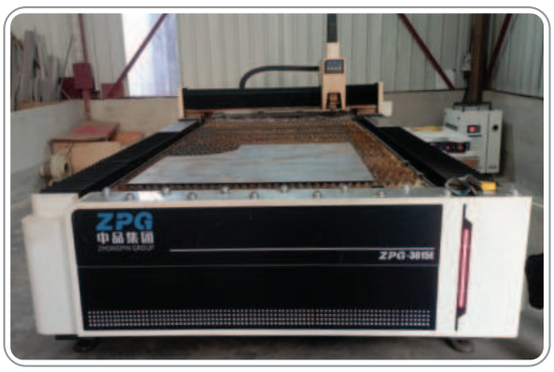
Oil BDV Tester

Resistance Meter

LIST OF MECHANICAL & ALLIED EQUIPMENT

S.N	ITEM	QTY
1	Core Sliting Machine (CNC)	1 SET
2	Core Cutting Machine (cut to length)	3
3	Laser Cutting	2
4	Fork Lift	2
5	Main Crane	20 TON
6	V-notch Machine	2
7	Core Cutting Machine	4
8	Core Cutting Machine (cut to length)	3
9	DVDF Test Machine	1
10	DPC Machine	2
11	Paddle Shearing Machine	4
12	V-notch Shearing Machine	2
13	Electric Blower M/C (Big)	1
14	Electric Blower M/C (Small)	1
15	Hand Ball Press M/C	1
16	Hand Drill M/C	1
17	Hand Grinding M/C-4”	3
18	Hand Grinding M/C-7”	1
19	Hit Gun M/C	2
20	Hydraulic Press M/C	2
21	Power Press M/C 200	1

S.N	ITEM	QTY
22	Power Press M/C 80 mton	2
23	Power Press M/C 150 mton	1
24	Power Press M/C 40 mton	2
25	Hydraulic Trolly	5
26	Lathe Machine 6’ft	2
27	Lathe Machine 8’ft	1
28	LT Winding Machine (upto 28 MVA)	3
29	Paddle Shearing M/C	11
30	Hydraulic Shearing Machine	1
31	Power Hacksaw Shearing M/C	1
32	Power Shearing M/C	1
33	Spot Welding Machine	4
34	Compressor	2
35	Welding Machine (MIG)	3
36	Busbar Processing Machine	3
37	Welding Machine (Seam Welding)	1
38	MS Sheet Cutting	2
39	MS Sheet Cutting	1
40	Bending Machine	2
41	Hydraulic Bending Machine	1
42	Arc Welding M/C	2



Laser Machine

Core Slitting Machine

Dry-Type V.P.I Transformer

Vaccum Impregnated Dry-Type Transformer

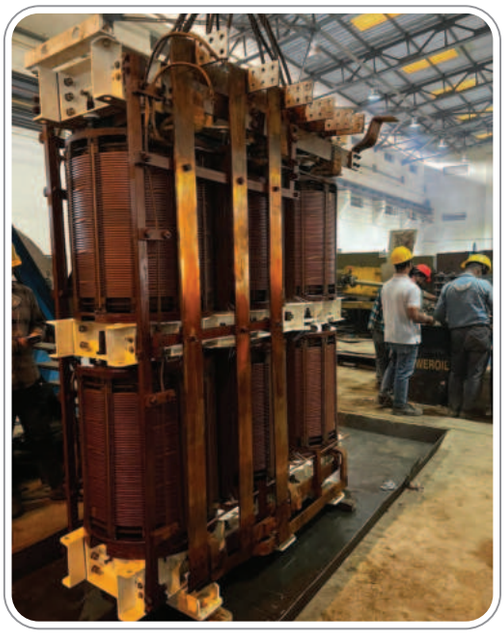
- Good insulation performance and mechanical strength.
- Both coils are repairable.
- Nomex insulation.
- Temperature tolerance up to 150°C.
- Flexible gasket for inrush current.
- Better heat dissipation.

Furnace Transformer

This is a 6.3 MVA furnace transformer with a primary voltage of 33 kV and a secondary voltage of 570 V, designed and supplied for BSRM.

- Transformer with 4 windings in one limb.
- LT winding, tertiary winding (one turn), and two HT windings.
- LT winding divided into two parts:

  i) One part with star connection.
  ii) Another part with delta connection to minimize harmonics.



6.3 MVA 33kV/570V Furnace Transformer

500 kVA, 415V/390V Isolation Transformer

Isolation Transformer

- Isolates electrical devices from the power source.
- Protects users and sensitive equipment from power surges, spikes, and faults in the main power source.

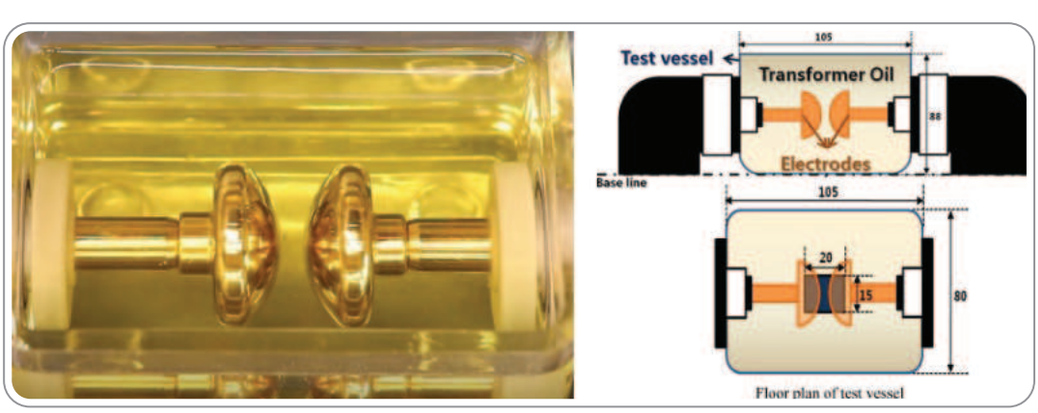
Application

- Medical equipment.
- Audio equipment.
- Industrial control systems.
- Laboratories.

PERIODIC MAINTENANCE SCHEDULE

NO	PIECES TO SURVEY	PERIODICITY	OBSERVATIONS
01	Thermometer	Once per year	
02	Accessory with alarm & contact	Once per year	Verify the operation condition once in a week.
03	Oil's breakdown value	Once per year	
04	Oil level	Once per month	
05	Oil leak	Once per Month	
06	Silica gel breather	Once per Month	Gel to be recharged by heating in dry air
07	Bushing	Once per year	
08	Insulation resistance	Once per half year	
09	Cable	Once per year	
10	Cooling Fan (if any)	Once per year	
11	OLTC oil-BDV checking (if any)	Depends on rotation	See OLTC Manual
12	OLTC oil	Depends on rotation	See OLTC Manual
13	Transformer oil-BDV checking	Once per 3 year	Centrifuging required
14	Transformer oil	Once per 5 year	If BDV decreased to below 20kV- Total change
15	HT LT gasket	Once per 3 year	Change
16	Top cover gasket	Once per 3 year	Change
17	Conservator	Once in 5 year	
18	Verify the alarm/tip signal checking	Once per year	
19	Tightness of nuts & bolts	Once per year	

Transformer Maintenance



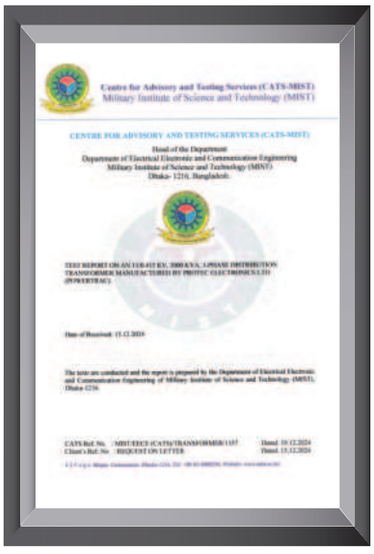
Transformer Oil Analysis

CERTIFICATIONS

ISO-9001:2015

ISO-14001:2015

DUET TEST-10/12.5MVA



MIST TEST-11/0.415KV

CPRI TEST-200 KVA

CPRI TEST-250 KVA

At POWERtrac, we ensure high-quality, reliable, and safe transformers that meet stringent industry standards. Our ISO-certified manufacturing follows strict quality management, while compliance with IEC and ANSI standards guarantees performance and safety. Every unit undergoes type and routine testing for durability, and we prioritize environmental and safety standards for energy efficiency. Our certifications reflect our commitment to excellence and industry-leading quality.

H# 195 (1st & 3rd Floor), R# 01,
Mohakhali DOHS, Dhaka-1206,
Bangladesh.

+088 01404-405-109
+088 01974-655-026

www.powertrac-bd.com
info@powertrac-bd.com

POWERtrac Concerns