



Betelco
POWER SOLUTIONS



HV/LV DISTRIBUTION TRANSFORMERS 50KVA - 5000KVA

AN ISO 9001:2000 CERTIFIED COMPANY



CERTIFICATE NO. 0404021

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...delivering the best value and service



বেঙ্গল টেলিকমিউনিকেশন এ্যাণ্ড ইলেকট্রিক কর্পোরেশন (প্রাঃ) লিঃ
Bengal Telecommunication & Electric Corp. (Pvt.) Ltd.

Manufacture, Supply, Installation & Maintenance
Services for all types of Electrical Works

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Routine Tests

Routine tests carried out on all transformers during manufacture. Each transformer is issued with an official test certificate and an Oil Test report.

- Insulation resistance test
- Power frequency high voltage withstand test
- Measurement of :
 - ▶ no load losses and no load current
 - ▶ load losses and impedance voltage
 - ▶ MV & LV winding resistance
 - ▶ voltage ratio and polarity (vector group)
 - ▶ dielectric strength of oil

Standards

- IEC 76

Basic fittings

- 1 off-load tapchanger with pad locking located on the cover, this switch operates on the highest rated voltage to bring the transformers to the supply voltage - actual value
- Oil conservator
- 1 filling plug
- Oil level gauge
- 3 HV porcelain bushings
- 4 LV porcelain bushings
- 1 earthing terminal on the tank
- 4 lifting lugs
- 1 rating plate to be fixed on the tank body
- 1 draining device
- 1 dial type thermometer
- Buchholz relay above 1000kVA

Options

- On-load tapchanger
- LV cable connection box
- Control & Protection devices
- Buchholz relay or a protection relay system (for alarm and tripping) :
 - ▶ gas detector
 - ▶ low oil level indicator
 - ▶ over pressure contact
 - ▶ thermostat and thermometer

Description

CORE: The transformer core is mitered cut from cold-rolled grain-oriented silicon steel with stepped limb and yoke so as to obtain a maximum possible low loss magnetic circuit, clamped with heavy steel channels and tie rod.

INSULATION: The dielectric circuit of transformer which isolates the magnetic and electric circuit and their parts maintaining high insulation level is formed by insulating paper, pressboards, bachelite and transformer oil of highest quality. Insulation is class F according to IEC.

WINDING: The HT and LT windings, designed with low current densities, are constructed in multilayered cylindrical structure with off ducts ensuring sufficient mechanical and dielectric strength to survive under fault conditions.

TANK: The tank designed and constructed with mild-steel along with radiators, conservator and other features, forms a complete unit of sufficient mechanical strength and provides optimum support for heat dissipation under energized conditions.

RADIATOR: Radiators are built of cylindrical tubes made by bending mild-steel sheets. These tubes are joined by mig-welding to make the tubes leak proof. Number of tubes required are calculated to provide 65°C oil temperature rise above ambient.

Transformers comply with the following specifications :

- Three-phase transformers, for indoor or outdoor use (installation to be specified)
- Step-down type, step-up on request
- Rated frequency : 50Hz, 60 Hz on request
- Maximum ambient temperature 40°C
- Mineral oil immersed (other dielectric up on request)
- Breathing type transformers with integral filling
- Cover bolted on tank
- ONAN type natural cooling
- Standard anti-corrosion surface treatment and coating
- Final color *Betelco* medium-grey

Product Features

- **Quality assured**
- **Cost competitive**
- **Designed for engineering efficiency**
- **After-sales service on call**
- **Universal mounting/moving facility**
- **Warranted**

Specifications

Capacity (KVA)	Losses (watt)		% Lmp.	% Regulation At Unity Power factor	% Efficiency At Unity Power factor	Out Line Dimensions Approx. (cm)			Oil (Litre)	Total Weight (kg)
	No Load	Load at 75°C				H	L	W		
11000 / 415V, 3 - PHASE TRANSFORMER										
50	150	925	4	1.68	97.85	118	94	58	140	580
100	245	1700	4	1.62	98.05	132	100	63	180	650
150	320	2412	4	1.40	98.17	145	105	88	220	900
200	435	2820	4	1.20	98.37	150	112	93	230	975
250	520	3265	4	1.22	98.48	158	113	95	270	1100
315	580	4500	4	1.15	98.38	157	120	97	350	1250
400	722	5490	4	1.10	98.44	162	123	98	390	1450
500	865	6275	5	1.05	98.57	165	124	102	425	1725
630	920	7740	5.5	0.98	98.62	170	136	103	500	1970
750	1150	8850	6.0	0.94	98.66	185	155	112	625	2250
800	1300	9800	6.0	0.96	98.61	225	170	113	650	2575
1000	1650	11600	6.0	0.99	98.67	215	185	115	800	2850
1250	1820	12300	6.5	0.95	98.87	225	190	116	1000	3725
1500	2100	13275	6.5	0.87	98.97	230	200	120	1200	4300
2000	2650	16470	6.5	0.83	99.04	250	210	135	1450	4750
2500	3140	19700	7	0.82	99.08	285	220	150	1800	5600
3000	3420	22860	7	0.77	99.12	300	230	170	2050	6350
33000 / 415V, 3 - PHASE TRANSFORMER										
100	260	1700	4.5	1.60	98.045	133	102	63	198	790
150	340	2530	4.5	1.42	98.08	146	107	88	240	955
200	465	2950	4.5	1.63	98.29	151	114	93	285	1010
250	580	3340	4.5	1.20	98.43	155	116	95	360	1140
315	640	4725	4.5	1.18	98.29	158	122	97	450	1300
400	750	5760	4.5	1.13	98.37	163	125	98	495	1520
500	900	6500	4.5	1.10	98.52	167	127	102	560	1800
630	975	8125	4.5	0.95	98.55	172	138	103	700	2020
750	1240	9200	5.0	0.92	98.60	187	158	112	785	2340
800	1350	10000	5.5	0.90	98.58	202	173	113	820	2670
1000	1725	12100	5.5	0.97	98.61	220	188	115	870	2960
1250	1880	12950	5.5	0.93	98.81	227	193	116	1150	3850
1500	2200	13940	6.0	0.85	98.92	232	195	120	1260	4425
2000	2750	17300	5.5	0.86	98.99	253	197	135	1510	4870
2500	3400	20700	7.0	0.83	98.03	287	203	150	1865	5730
3000	3575	24000	7.0	0.79	99.08	303	233	170	2150	6475

In the interest of continuous technical development, the above specifications are subject to change without prior notice.

WARRANTY : We provide warranty against any material and workmanship defect for a period of 18 months from the date of delivery. We will repair/replace the defective parts within shortest possible time at our cost. After expiry of the warranty period, repair/maintenance of the equipment shall be carried out for a nominal fee.