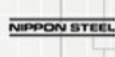




**Betelco**  
POWER SOLUTIONS



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50kVA - 25MVA  
**TRANSFORMERS**  
POWER + DISTRIBUTION



**Betelco**  
POWER SOLUTIONS

## OIL-IMMERSED TRANSFORMERS

Frequency 50Hz - IEC standards

### Description

**Core** : The transformer core is mitered cut from cold-rolled grain-oriented silicon steel (CRGO) of the highest quality, 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, Bakelite 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 structures with off ducts ensuring sufficient mechanical and dielectric strength to survive under fault conditions.

**Tank** : The tank is 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, 60Hz on request
- Maximum ambient temperature 40°C
- Mineral oil immersed (Other dielectric 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

### 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 Loss and No Load Current
  - ▶ Load Loss and Impedance Voltage
  - ▶ MV & HV Winding Resistance
  - ▶ Voltage Ratio and Polarity (Vector Group)
  - ▶ Dielectric Strength of Oil

### Standards

- IEC 60076

### Basic fittings

- 1 Off-load Tap Changer with pad locking located on the cover, this switch operates on the highest rated voltage to bring the transformer to the supply voltage - actual value
- Oil Conservator
- 1 Oil Filling Cap
- 1 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 Oil Drainage Valve
- 1 Dial-type Thermometer
- 1 Buchholz Relay above 1000kVA

### Options

- On-load Tap Changer (OLTC)
- 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

### Product Features

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



#### SHORT CIRCUIT + ROUTINE



#### IMPULSE



2018  
ATTAINED  
TYPE-TEST  
CERTIFICATION  
FOR SEVERAL  
RATINGS FROM  
CPRI



OIL



TEMPERATURE RISE

**WARRANTY** : We provide warranty against any materials and workmanship defect for a period of 18 months from 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 may be carried out for a nominal fee.

POWER + DISTRIBUTION TRANSFORMERS 50kVA - 25MVA