



GEW TRAFOTECH PVT. LTD.

# First Electric

**...the first revolution in transformers**

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[www.firstelectric.com](http://www.firstelectric.com)

## MARKETING DISTRIBUTORS



Brand transformers  
Manufactured by GEW *Trafotech* Pvt. Ltd., Allahabad



Brand life extension devices for transformers

## RANGE

Distribution transformers up-to 3 MVA 11 & 33 KV class

Power transformers up-to 60 MVA 132 KV class

## Maintenance-free liquid immersed transformers

(No oil filtration/ No silica-gel maintenance / No winding tightening after 10yrs)

**Fire safe liquid immersed transformers**

**Solar/ Wind-power transformers**

**Induction furnace transformers**

**Converter duty transformers**

**Arc furnace transformers**

**Dual ratio transformers**

**Generator transformers**

**Isolation transformers**

**Rectifier transformers**

**Earthing transformers**

**Traction transformers**

**Booster transformers**

**Zig-zag transformers**

## Salient Features of "Maintenance-free" Transformers

Manufactured by using patented\* technology

- Provided with On-line oil purifiers, which keep the transformers dry to a moisture level < 15 PPM in oil & < 1% by DWOI. Not only moisture, acidity is also controlled and maintained at a low value
- **Silica-gel breathers not required.** Sealed Breathing System keep transformer 100% isolated from atmosphere, hence preventing moisture entry
- Provided with Sealed Breathing System which need no maintenance
- **Tightening of windings not required.** Auto tightening system provided, preventing the need of opening the transformer after 10 yrs., as per norms
- **Alarm for winding dis-location.** Save transformer before the damage happens.
- Magnetic circuit (Core) earth brought out & tested for 5 KV in place of 2 KV ( as stated in IS 2026)
- Tap switch placed outside the main tank, so in the rare event of damage of tap switch, the main transformer and main oil remain un-affected of tap switch contamination
- On-load tap changers can be provided with Sealed breathing systems with escape route for gases developed during tap change (first time in the world)
- OLTCs can be provided with On-line oil purifiers
- A perfect scheme to extend life of OLTC to more than double the operations without an overhaul, is available
- **Special features provided**
  - Residual drain plug provided to empty the transformer to last drop, if required
  - jacking screws provided for easy opening of covers without struggle
  - Tested for C & Tan delta



**Standards**

- IS 2026
- IEC 60076
- IS:6600

**Altitude**

- 1000 M above sea level

**Temp range**

- - 5 to 50 ° Celcius

Can alter on demand

**:: CORE**

low loss silicon core  
M5 M4 Hi B

Mitred Joint  
Step-lap joint

Stacked or wound core

3 leg or 5 leg construction

Core tested at 5 KV against 2 KV mentioned in IS:2026

Core earth brought-out for easy accessibility & testing

**:: WINDINGS**



Electrolytic copper or Aluminium

Spiral/ Helical/ Cross-over/ Disc/ Inter-leaved

Round wire/ Strip/ CTC

Insulation class A / E / F / H

Seasoned & Pre-compressed before assembly

Winding dislocation alarm can be provided

**:: Solid Insulation**

Own factory to manufacture solid insulation

Least shrinkage factor / low moisture level

A / B / F / H Class insulation



## :: Liquid Insulation

- PCB free Mineral oil paraffin or Napthenic based
- Fire safe oil with fire point > 300° C
- Oil filling is done under vacuum

## :: Tap Changer

- |   |  |  |
|---|--|--|
| OCTC Placed outside main tank                           | High speed OLTC<br>9/17/21 taps              | integrated RTCC with in-built AVR                      |
| Can double the no. of operations by filling special oil | Can be provided with Sealed Breathing system | Transformer remains safe in case of tap switch failure |

## :: Tank

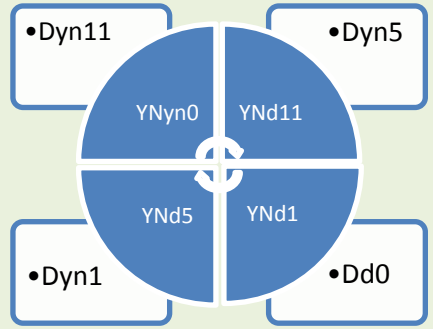


- TANK • Sealed // Corrugated // Expandable
- TANK • Fit for full vacuum
- TANK • Insulated from inside

## :: Gaskets

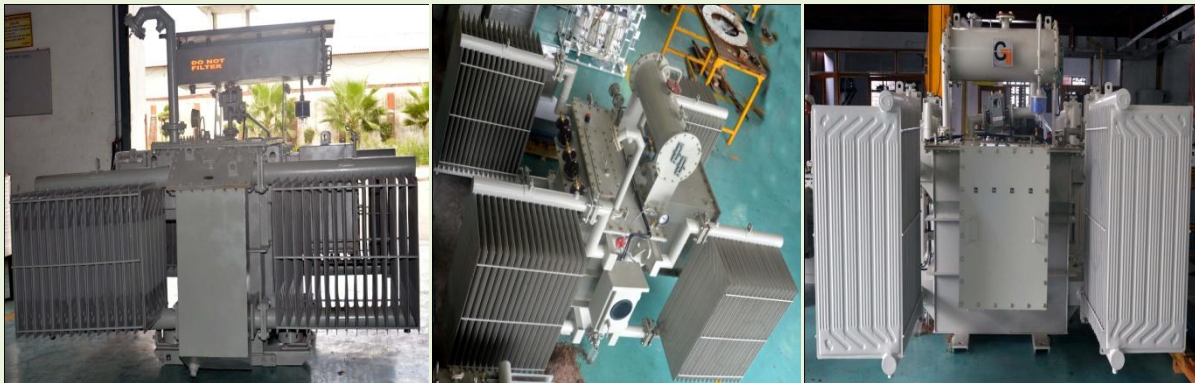
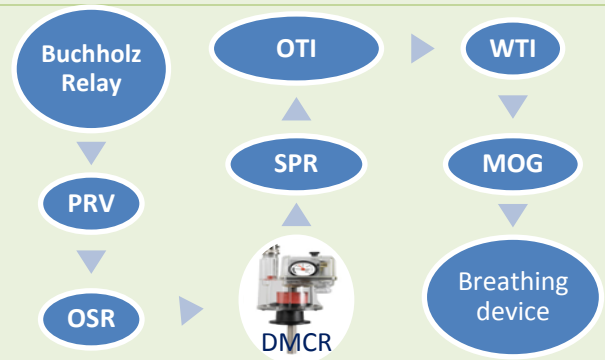
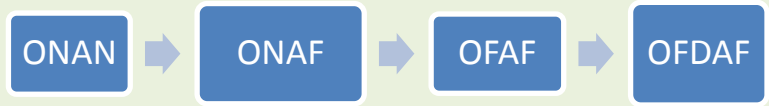
- Rubberized gaskets- Neoprene/ Nitrile based
- Chord Gaskets in groove
- Jointless gaskets

**:: Vector group**



**:: Cooling System**

**:: Accessories**



## :: GTP of Distribution transformers

3 Ph 50 Hz ONAN **Cu wound** Dist. Transformers 11000/433 Volts with Off circuit tap changer **Dyn11** ONAN

Rating	100	160	200	250	315	400	500	630	750	1000	1250	1600	2000	2500	3000
No load loss	250	350	450	540	600	700	850	950	1000	1650	2150	2900	2900	2900	3200
Load loss	2100	3050	3900	4250	4950	6400	7650	8400	10400	11200	14300	17900	18000	25800	31000
% Imp	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	5 %	5 %	5 %	6.25%	6.25%	6.25%	6.25%	6.25%

Tolerance as per IS applicable

**NOTE: ALL GT TRANSFORMERS DO NOT REQUIRE FOLLOWING \***

Replacement of silica-gel in breathers <b>NOT REQUIRED</b>	Transformers are provided with "Sealed Breathing System" Transformer remains 100% isolated from open atmosphere/ allowing breathing but dis-allowing air contact.
Oil filtration for 15 Years <b>NOT REQUIRED</b>	Transformers are provided with in-built Oil purifiers
Winding tightening after 8-10 yrs. <b>NOT REQUIRED</b>	Transformers are provided with auto-tightening system inside

**OTHER PLUS POINTS**

- The weakest point, the off circuit tap switch is not placed in transformer tank but housed in a separate chamber outside main tank, so, in the rare event of damage in tap switch, the main transformer oil remains safe/ un-contaminated.
- The magnetic circuit earth is brought-out, permitting user to test magnetic circuit without opening the transformer. Moreover, magnetic circuit is tested at 5 KV against 2 KV in other transformers. Clamps are earthed inside the tank.
- Transformers are provided with residual drain plugs at bottom facilitating emptying the 100% oil, if needed, unlike other transformers where drain plugs are provided above bottom level, allowing the sludge/bad oil to remain present at bottom of tank.
- Another weak link, WTI CT, is placed outside the transformer. So, in the rare event of CT damage, the transformer remains unaffected
- SPECIAL FEATURE** first time in world: OLTCs are provided with Sealed Breathing System!!! Air never comes in contact with OLTC oil and gases produced have an escape route.

\*Subject to terms of operation mentioned in the manual

### Accessories

#### Up-to 400 KVA Transformer

- Radiators or Fins
- Off circuit tap switch
- Silica-gel Breather
- Thermometer pocket with 100mm Dial type temp. gauge
- Drain valve/ Filter valve
- Plain rollers – 4 nos.
- Plain oil level indicator
- Lifting lugs / Earth terminals- 2 nos.
- Air release plug
- Rating and diagram plate

**Note:** Cable lugs/ Glands/ extended bus bars etc are not in our scope of supply.

- *Figures indicated are approximate and may change without prior notice*

#### Transformers 500 KVA and above

- Radiators or Fins
- Off circuit tap switch
- Silica-gel Breather
- Marshalling box with 150mm OTI & WTI
- Drain valve/ Filter valve
- Plain rollers – 4 nos.
- Plain oil level indicator
- Lifting lugs / Earth terminals- 2 nos.
- Buchholz Relay / Air release plug
- Rating and diagram plate

:: Services

Annual  
Maintenance  
Contracts

Rewinding of  
transformers up-to  
100 MVA 220 KV

Supply of  
transformer & sub-  
station spares

Reconditioning of  
transformers from  
500 KVA to 500 MVA  
400 KV Class

Attending defects  
of OLTC/RTCC/FCC  
panels

Service /  
Overhaul of  
various types of  
On load tap  
changers

Conversion of existing free-breathing  
transformers to Sealed breathing  
system and filter-free transformers

Up-grading  
capacity of  
transformers

Re-vitalisation  
Condition  
monitoring



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