

## **OIL IMMERSED TRANSFORMERS**





endless transformation



## POWER UP TO 50MVA Voltage up to 145kV Bil 650kV



Oil immersed transformers offer a customize and reliable solution for the customer as the typical design allows many configurations and installations.



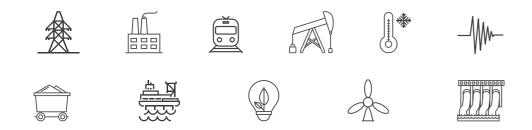


# **APPLICATIONS**

Thanks to their design, oil immersed transformers are used either for indoor or outdoor installations and in high polluted places.

They can also be designed for the installation in railways networks or substation. Their capability to withstand high humidity and polluted atmosphere allows the installation in mines, paper mills, off-shore and on-shore sites, oil & gas systems, desalination plants and cement factories.

Oil Immersed Transformers are suitable for extreme temperatures allowing the installation in low temperatures areas. Customized design allows installation in seismic areas or in high vibration conditions like for mobile machines. These transformers are used in renewable energy grids like wind, hydro, solar and geothermal power plants. Other applications are conversion, excitation, testing and earthing.







## MAIN ADVANTAGES OF OIL IMMERSED TRANSFORMERS

## SAVING

Designed for easy installation with accessories properly wired and positioned to simplify the installation and maintenance operations in order to reduce the costs.

### COMPACT DESIGN

Optimized dimensions and terminals arrangement for critical situation of space.

#### HIGH ENVIRONMENTAL RESISTANCE

Specific coating treatment and use of stainless steel bolts to withstand the most extreme environmental conditions.



V

#### HEAVY DUTY

Special design structure for seismic zones or for using in applications with high level vibrations.

#### ECO-FRIENDLY

Research and development of the most performing materials combined with an advanced design for high energy efficiency. Upon request, available with non-flammable or bio oil to reduce the environmental risk.





Oil immersed transformers can be equipped with a wide range of accessories, including:

#### SAFETY PROTECTION DEVICES

- · PT100 sensors for oil temperature detector
- · Oil temperature indicator
- $\cdot$  Buchholz relay for transformers with conservator to intercept any gas bubble
- Integrated protection device for checking temperature, pressure and oil level of the hermetically sealed transformers
- · Oil level indicator
- $\cdot\,$  Winding temperature indicator
- $\cdot\,$  Pressure relief valve to avoid damage to the tank in case of an overpressure
- · Surge arresters for overvoltages protection
- $\cdot\,$  Silica gel air breather to filtering air from moisture inside the conservator

#### SPECIAL TERMINALS CONNECTIONS

- · Plug in terminals
- Busbars connections

#### SPECIAL ACCESSORIES

- $\cdot$  Fans for air forced cooling to increase the power up to 40%
- · Electrostatic screen between MV to LV windings
- $\cdot\,$  Anti-vibration dampers for the reduction of transformer's vibrations and therefore of noise
- $\cdot\,$  Current transformers for MV or LV sides
- $\cdot$  On load tap changer
- $\cdot\,$  Flexible separator to avoid the contact between oil and air inside the conservator
- $\cdot$  Cable boxes for MV or LV bushings



## SERVICES FOR OIL IMMERSED TRANSFORMERS

#### COMMISSIONING AND TRAINING ON SITE

Supervision by skilled technicians during the commissioning operation and training sessions for the maintenance personnel.

#### PACKING AND IMPACT RECORDING

Possibility to ship transformers with seaworthy packing and impact recorder to monitor the status of the transformers during whole transport.

### **MAINTENANCE**

M

Maintenance on site through Trafo Elettro's local partners or special maintenance at Trafo Elettro's plant. Dielectric and features analysis of oil.

#### SPARE PARTS

Availability of spare parts with quick delivery.

#### TRANSFORMERS HIRE

Transformers available in stock to ensure no long stop of the system.

## STORAGE SERVICE Availability of a large area to store the transformers for long-term projects or customer's delays.





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