

Application:

Submersible and occasionally submersible transformers are used mainly in underground distribution circuits that are susceptible to corrosive environments and temporary or extended flooding conditions.

Occasionally submersible transformers are built to operate in an underground chamber or vault subject to potential flooding under a set of predetermined pressure and time conditions (24 hours under a 40 cm water column measured from the upper part of the transformer).

**Scope of the offer:**

Designed and manufactured as radial or loop types, depending on the customer's requirements.

Manufactured in compliance with NTC standards (occasionally submersible transformers), ANSI and EDC standards (submersible transformers) and/or individual customer specifications.

Ratings (kVA):

Single Phase: 15 kVA to 500 kVA.
Three-phase: 30 kVA to 2500 kVA.

Basic Insulation Level:

From BIL 95 kV to BIL 150 kV

Typical construction mode:

Transformers typically consist of an active part made up of the core (magnetic circuit), the coil (electric circuit) and the yoke clamp, which is determined in accordance with the type of transformer, placed in a tank that provides the equipment with specific features, depending on its intended application.

Coils:

- Rectangular section with copper or aluminum windings.
- Insulation: High-quality paper with epoxy resin coatings.

Cores:

- Shell Type or Core Type, wound, set up in groups for easy assembly and disassembly without loss of dimensional characteristics, guaranteeing low losses and excitation currents.
- Materials: Cold-rolled grain-oriented silicon electrical steel sheet with insulating coating on both sides, low core loss and high permeability.

Yoke clamps:

- Made of cold-rolled and hot-rolled steel, the clamp the core, with individual bolted caps enabling easy disassembly for maintenance purposes.
- They guarantee high resistance to short circuit mechanical stresses, low noise levels and low excitation currents

Tanks:

- Single-phase transformers: Cylindrical made from Cold Rolled and Hot Rolled Steel.
- The TANKS are made of corrosion-resistant material. They are made of stainless steel and include with a single coating of finishing paint for appearance.
- Radiators: Depending on the voltage, a radiation system with vertical blades may be used, enabling a more compact construction of the tank, in radiation panels with radiating elements.

Accessories and protection devices:

In order to ensure superior operational safety and reliability for underground applications, the connection at the high voltage end includes elastomeric components, such as vertical bayonet sets, canister fuses, long-shank bushing wells that can be immersed in oil, ON-OFF vertical loadbreak switches, oil level gauges, and any additional accessories requested by the customer.

DESCRIPCION	
1	Well-type bushing
3	Parking bushing stand
4	Bayonet-type fuse holder set
5	Bayonet fuse
7	Switch
9	Pressure relief valve
10	NTP drain valve with sampling device
11	Nipple and fill stopper
12	Grounding points
13	Oil level indicator
14	Tap Changer
15	Nameplates
16	Lifting lugs
17	Low-voltage terminals

DESCRIPTION		
DESCRIPTION	SINGLE-PHASE	THREE-PHASE
Insert bushing	X	X
Backup bushing		X
Elbow	X	X

