

Medium Voltage / Plug In Bushing for Transformer

Medium Voltage (MV) Transformer Bushings are designed to provide safe and reliable electrical insulation for conducting current through the transformer tank while maintaining complete separation between energized conductors and grounded tank surfaces.

These bushings are widely used in oil-filled distribution and power transformers to ensure secure electrical connection between internal windings and external power systems. They are engineered to deliver high dielectric strength, mechanical stability, and long-term operational reliability under varying environmental and electrical conditions.



Construction

MV transformer bushings are typically manufactured using high-quality porcelain depending on application requirements.

The main components include:

- Central conductor (copper or aluminum)
- Insulating body (porcelain or composite polymer)
- Mounting flange for transformer tank installation
- Sealing system using high-grade gaskets
- Terminal connections (top and bottom terminals)

Operating Principle

The bushing provides an insulated pathway for the electrical conductor to pass through the grounded transformer tank. The insulating material ensures that the electrical field is uniformly distributed, preventing partial discharge and electrical breakdown.

In oil-filled transformers, the lower portion of the bushing is immersed in insulating oil, while the upper portion is exposed to air. This dual insulation system ensures reliable operation under both internal and external environmental conditions.

Features

- High dielectric strength and insulation reliability
- Suitable for medium voltage applications
- Available in porcelain and composite designs
- Excellent mechanical strength.
- Weatherproof and pollution-resistant design
- Maintenance-free operation
- Compatible with IEC / IS / DIN standards
- Designed for long service life

Applications

- Distribution Transformers
- Power Transformers (Medium Voltage Side)

Technical Data at a Glance

Parameter

Specification

Voltage Class	Medium Voltage (up to ~52 kV)
Insulation Type	Porcelain
Mounting	Flanged Tank Mounting
Conductor Material	Copper / Aluminum
Standards	IEC, IS, DIN
Environment	Indoor / Outdoor
Application	Oil-Filled Transformers

Benefits

MV transformer bushings ensure safe and efficient power transfer across transformer boundaries while maintaining high insulation integrity. Their robust construction minimizes maintenance requirements and enhances transformer reliability, making them a critical component in modern electrical power systems.

