arteche

INDUCTIVE VOLTAGE TRANSFORMERS

_UT Series

Inductive voltage transformers are designed to provide a scaled down replica of the voltage in the HV line and isolate the measuring instruments, meters, relays, etc., from the high voltage power circuit.

APPLICATIONS

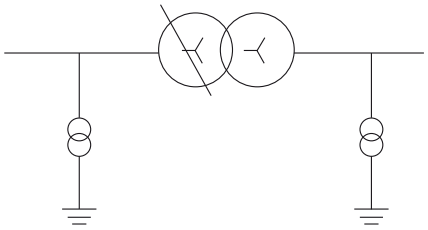
Voltage input to different types of protection relays.

Ideal for installation at metering points due to its very high accuracy class.

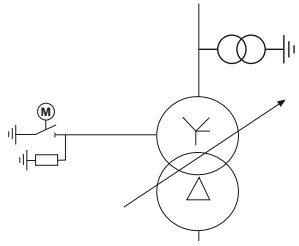
Suitable for the discharge of high-voltage lines and capacitor banks.

Examples of applications:

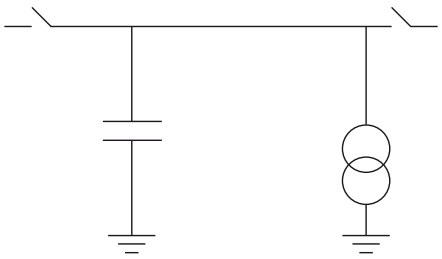
1. Protection for high voltage lines and substations.



2. Revenue metering.



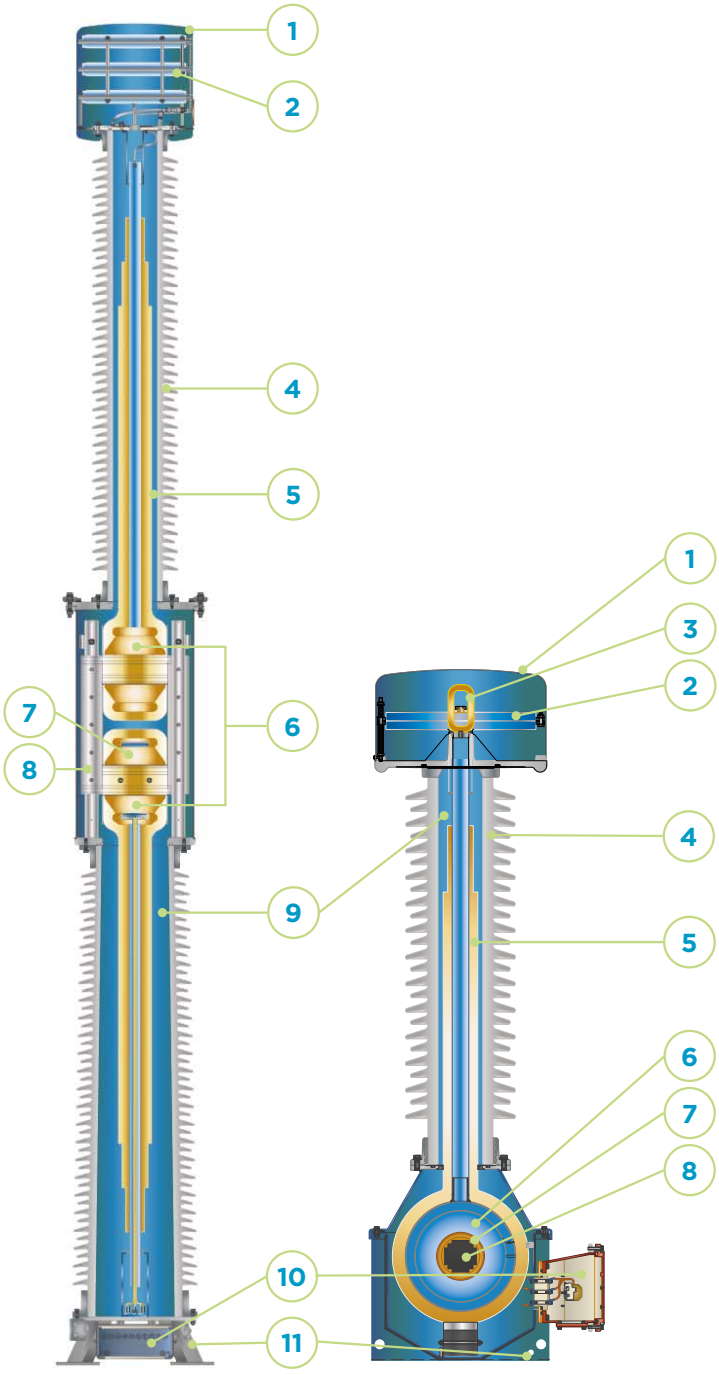
3. Discharge of capacitor lines and banks.



UT SERIES

Oil-paper insulation: model UT up to 550 kV.

1. Top cover
2. Oil volume compensating system
3. Oil level indicator
4. Insulator
5. Capacitive bushing
6. Primary windings
7. Secondary windings
8. Core
9. Insulating oil
10. Secondary terminal box
11. Grounding terminal



DESIGN AND MANUFACTURING

The voltage transformer primary conductor runs from the primary terminal through an oil-paper insulated capacitive bushing with several shields for proper electrical field distribution. Then it is wounded thousands of times around the magnetic core. The secondary winding(s) are wounded around the same core, which is loaded with their combined burden, and located in the bottom part of the transformers within a metallic external enclosure.

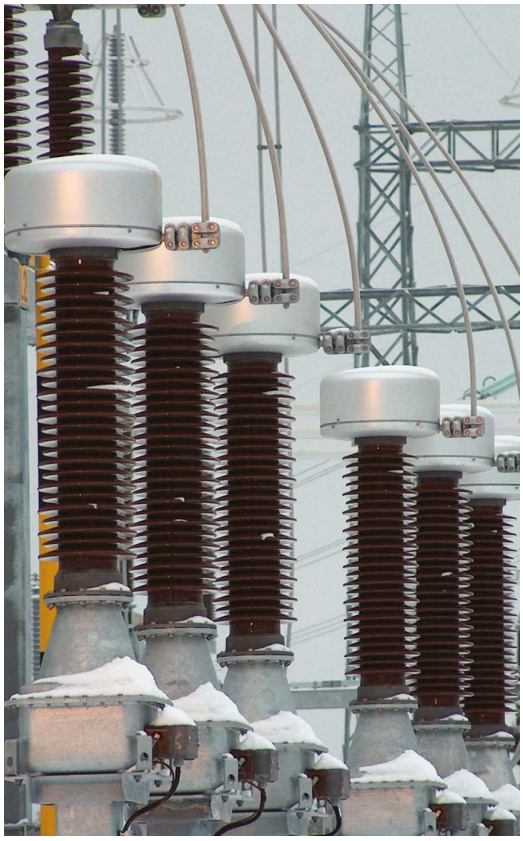
The windings have an antiresonant design, which makes the transformer work properly both at power frequency and during temporary high frequency transients. Electrical insulation is made through layers of papers impregnated with oil.

CHARACTERISTICS

- Very high and invariable accuracy (up to 0.1%) steady for the operational life of the equipment, with maximum reliability.
- Up to 4 secondary windings with or without taps, with metering, protection, or dual function.
- Anti-resonant winding design.
- Reinforced safety design.
- Robust mechanical strength.
- Excellent response under extreme environmental conditions: Temperatures from -60°C up to +60°C, high altitudes, seismic hazard areas, violent winds, etc.
- Maintenance-free throughout their complete lifespan of more than 30 years. Only periodic monitoring is recommended.
- Oil sampling valve and oil level indicator for monitoring.
- Hermetically sealed to guarantee complete water tightness with the minimum volume of oil. Each unit is tested individually.
- Metallic oil level compensating system that effectively regulates changes in oil volume mainly caused by temperature.
- Officially homologated in-house testing facilities.
- Quality management system certifications: ISO 9001, ISO 14001 and OHSAS 18001.
- Each unit is routine tested following applicable standards.
- Complete type tests reports following international standards.
- Compliance to any international or domestic standards.
- Environmentally friendly. The materials used for construction are recyclable and resistant to the elements. Its advanced design adheres to environmental regulations using high-quality insulating oils, free of PCBs.
- Reduced size due to a compact design that is easy to transport, store and install, and which reduces visual impact.
- May be transported and stored horizontally or vertically.

OPTIONS:

- Tangent Delta (DDF) tap for on-site testing.
- Internal arc test compliant as per IEC 61869 and other standards.
- Porcelain or polymeric insulators.
- Sealable secondary terminals.
- Different cable glands and accessories.
- Wide range of primary and secondary terminals.
- Current through connection to the HV line.
- Secondary protection devices inside the terminal box (fuses, MCBs...).
- Ferroresonance suppressing devices.



RANGE

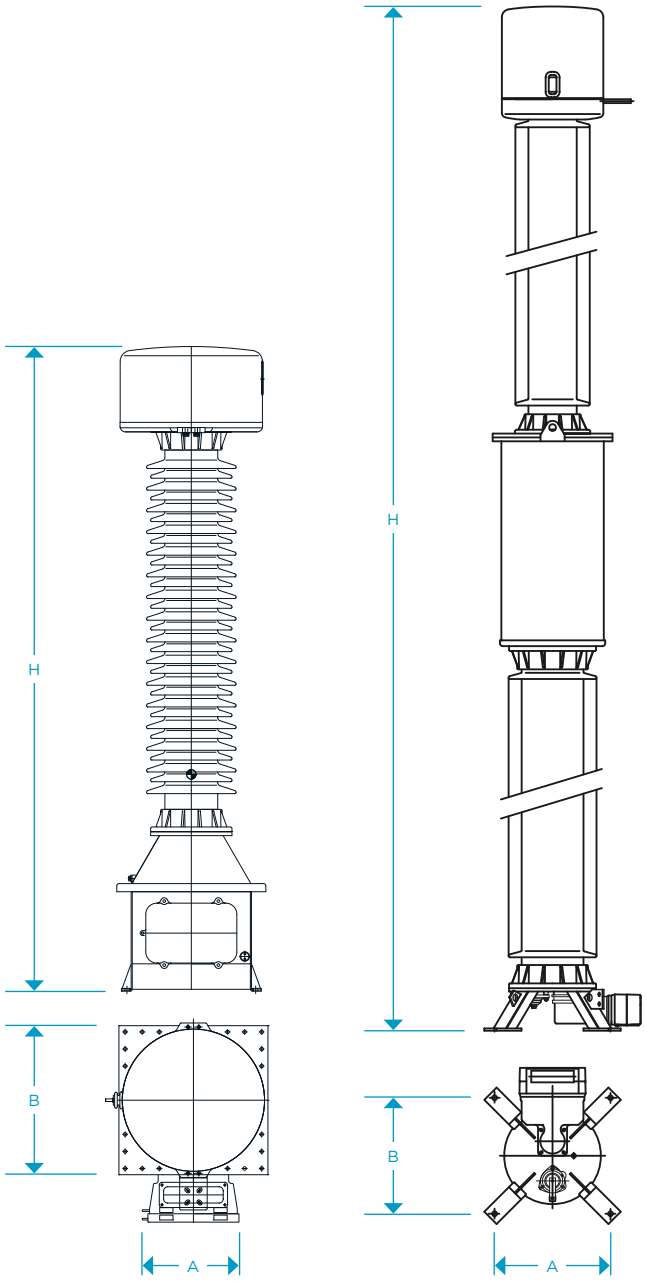
This series is named with the letters UT followed by 1 additional letter and 2 or 3 numbers indicating the maximum service voltage for which they have been designed.

The table on the next page shows the range currently manufactured by ARTECHE. These characteristics are merely indicative. ARTECHE can manufacture these transformers to comply with any domestic or international standard.

Secondary windings for:

- Protection: all possible types.
- Metering: accuracy classes for any metering/billing need (including high accuracy class 0.1 / 0.15 with extended range in current).

Number of secondary windings: up to 4 secondary windings are possible in a single device.



Oil-paper insulation > Model UT

Model	Highest voltage (kV)	Rated insulation level			Thermal burden (VA)	Standard creepage distance (mm)	Dimensions		Weight (kg)
		Power frequency (kV)	Lightning impulse (BIL) (kVp)	Switching impulse (kVp)			A x B (mm)	H (mm)	
UTB-52	52	95	250	-	1500	1300	350x350	1385	100
UTD-52	52	95	250	-	2000	1300	350x350	1470	150
UTB-72	72.5	140	325	-	1500	1825	350x350	1385	100
UTD-72	72.5	140	325	-	2000	1825	350x350	1470	150
UTE-72	72.5	140	325	-	2500	1825	350x475	1760	255
UTE-100	100	185	450	-	2000	2500	350x475	1760	255
UTD-123	123	230	550	-	3000	3075	350x475	2160	300
UTE-123	123	230	550	-	3500	3075	350x475	2160	310
UTE-145	145	275	650	-	3500	3625	350x475	2160	310
UTE-170	170	325	750	-	3500	4250	350x475	2320	350
UTF-245	245	460	1050	-	3500	6125	450x450	3182	510
		395	950						
UTG-245	245	460	1050	-	3500	6125	500x640	3655	810
		395	950						
UTG-300	300	460	1050	850	3500	7500	500x640	3655	810
UTF-420	420	630	1425	1050	3500	10500	600x600	5300	1300
		575	1300	950					
UTF-525	550 (525)	680	1550	1175	3500	13125	600x600	6220	1630

These dimensions and weights are approximate based on standard requirements.

For detailed values please consult with Arteche.