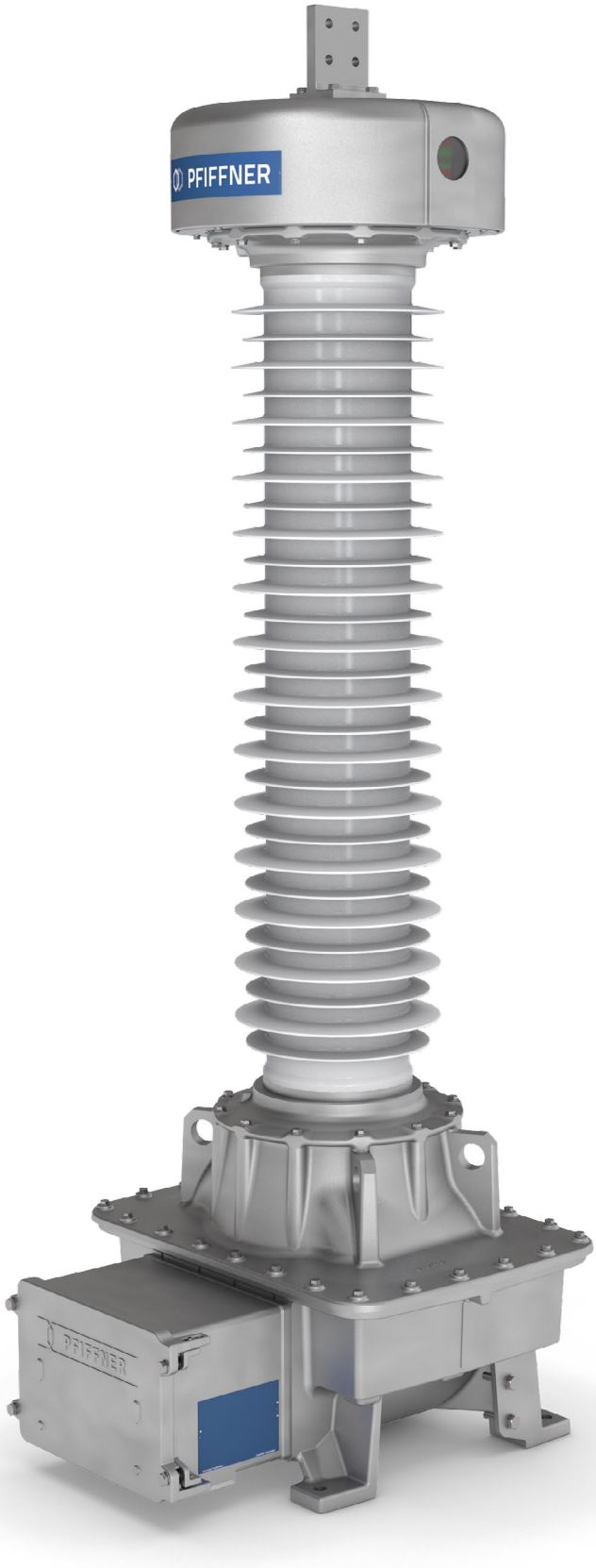
Inductive voltage transformers

Outdoor operation
Oil-paper insulated

EOF (24–245) kV



PFIFFNER

Current and voltage – our passion

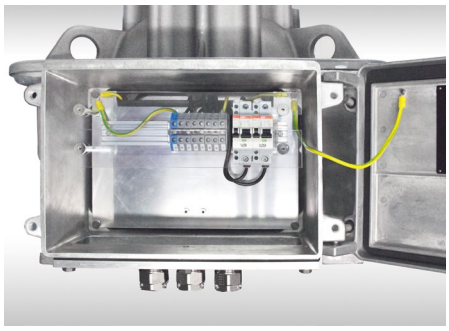
Highlights

Fine graded bushing

- The fine graded bushing is designed to ensure an optimum distribution of the electric field.
- The bushing is fixed in a way, that it is short-circuit-safe and secondary arcs are prevented.

Excellent protection against moisture

- The inner side of the instrument transformer is protected against moisture by means of special sealing rings.
- All housings are designed with a drain-age area to protect the sealing surfaces of the housings against rain. This significantly reduces crevice corrosion.
- The housing elements are connected with special stainless steel screws. They are designed in such a way that no humidity can enter the screw hole.



Installation-friendly terminal box

- The generously sized terminal box with a cover that can be opened sidewards, is secured with captive screws. It can accommodate terminal blocks, fuses, additional auxiliary contacts, and sealable covers.
- By default, all terminal boxes have a flange without holes. Cable glands can be preinstalled on request.
- An additional terminal box can be supplied on request.

General description

Voltage transformers type EOF are used in high voltage networks within the 24–245 kV range. They transform high voltage into standardised values for meters, measuring and protection devices.

The active part of the voltage transformer is located in the foot housing. The high voltage insulation is implemented in oil-paper technology. To achieve this, a high quality PCB-free mineral oil is used. The fine graded bushing is inside the insulator.

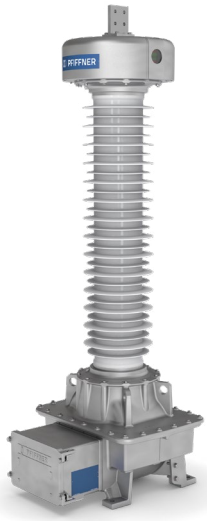
The expansion system is located in the head of the voltage transformer. This unit acts as volume compensation for the oil in case of temperature variations. For voltage transformers of 24–72 kV, a highly flexible, temperature-resistant membrane made from fluoroelastomers (VITON®) is used. Voltage transformers >72 kV have an expansion cell made of stainless steel. The oil expansion is indicated by a mechanical system in the window of the bellows cover.

All metal housings and flanges are made from a corrosion resistant aluminium alloy. These parts can be colour coated on request.

All voltage transformers have either a high-quality porcelain or a high-grade silicone composite insulator. Different creepage distances are available according to the different pollution classes, as specified in the standards.

The hermetic sealed housing protects the oil-paper insulation against atmospheric influences.

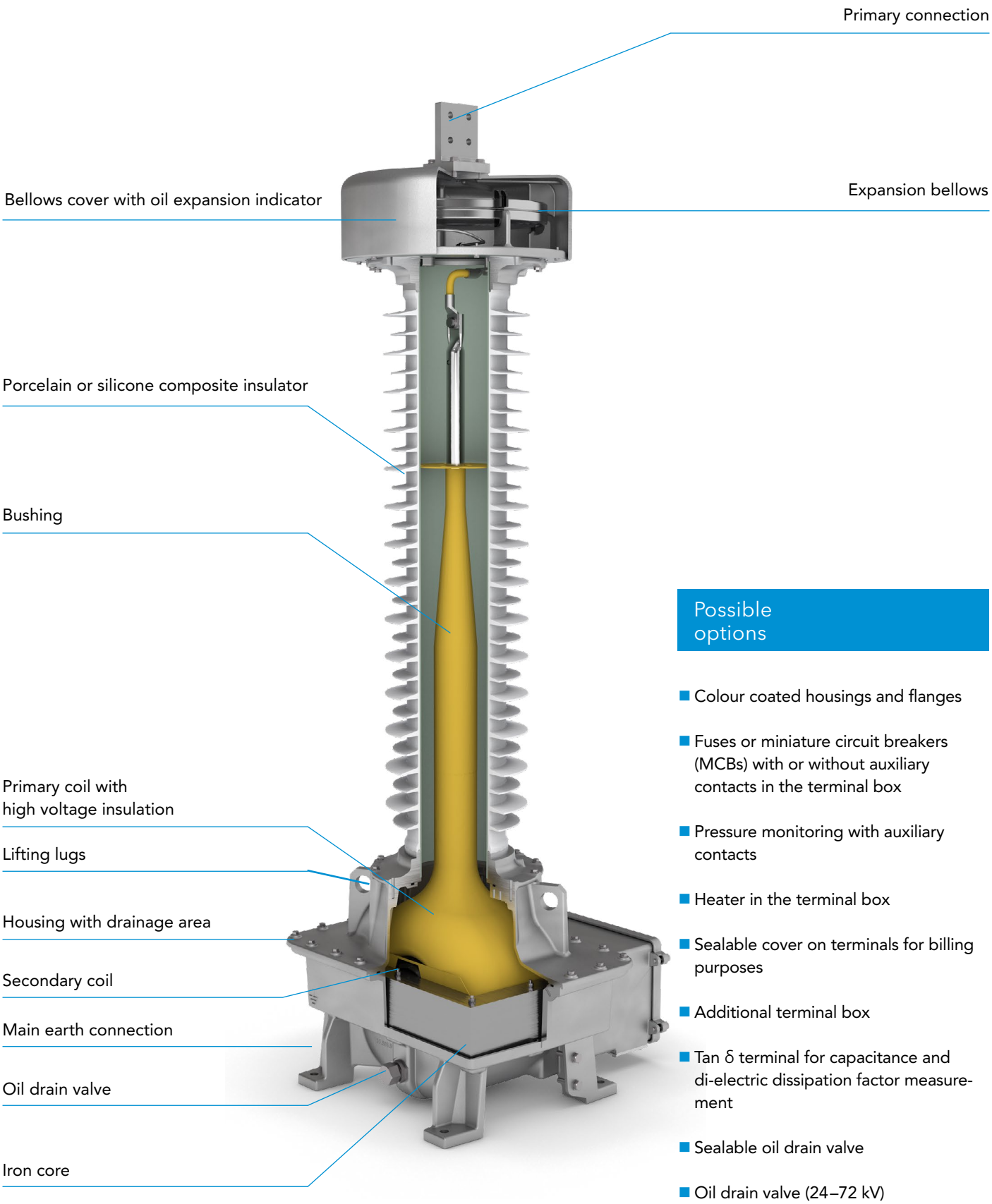
The generously sized terminal box has a cover which can be opened sidewards. This allows easy connection of the secondary cables. The terminal box has a flange without holes by default. Cable glands, circuit diagram and individual safety instructions can be preinstalled on request.



Advantages of inductive voltage transformers

- Protection of the secondary winding from transient overvoltages in the high-voltage network through capacitively coupled shielding
- Protection against occurring ferroresonance through low operating inductance in the iron core
- High operating safety as there are no active parts in the insulator
- Minimum oil volume through optimised design

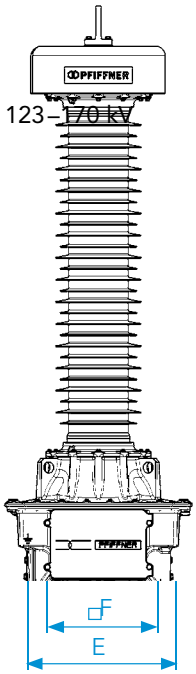
Design

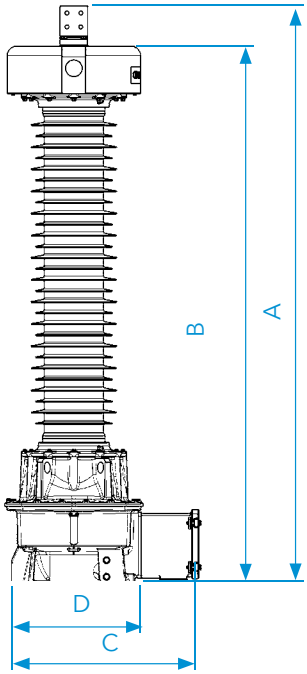


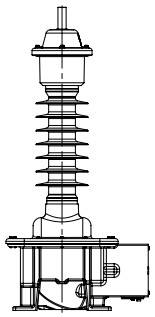
Possible options

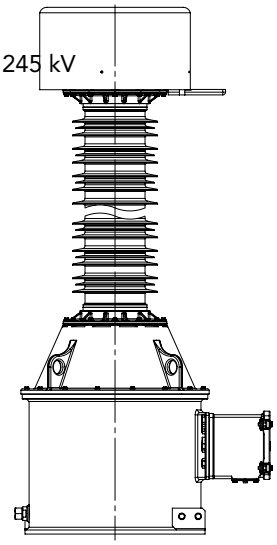
- Colour coated housings and flanges
- Fuses or miniature circuit breakers (MCBs) with or without auxiliary contacts in the terminal box
- Pressure monitoring with auxiliary contacts
- Heater in the terminal box
- Sealable cover on terminals for billing purposes
- Additional terminal box
- Tan δ terminal for capacitance and di-electric dissipation factor measure-ment
- Sealable oil drain valve
- Oil drain valve (24–72 kV)

Technical data









Type EOF		36	72	123	145	170	245
Standard		DIN / IEC / IEEE					
Highest voltage for equipment	kV	36	72.5	123	145	170	245
Rated power-frequency withstand voltage	kV	70	140	230	275	325	460
Rated lightning impulse withstand voltage	kV	170	325	550	650	750	1050
Frequency	Hz	16.7 / 50 / 60					
Accuracy class		0.1–3; 3P; 6P					
Rated thermal limiting output	VA	≤ 3000		≤ 5000			
Max. simultaneous burden (cl. 0.2)	VA	300					
Max. number windings		4		5			

Type EOF		36	72	123	145	170	245
Height of unit*	A mm	1150	1470	2120	2280	2540	3510
Height to primary terminal*	B mm	1030	1350	2000	2160	2420	3206
Depth of unit including terminal box	C mm	605	605	730	730	745	960
Depth of unit base	D mm	360	360	500	500	500	660
Width of unit base	E mm	360	360	520	520	520	660
Distance between screw holes at base	F mm	310	310	450	450	450	600
Min. creepage distance*		1117	2233	3814	4496	5271	7596
Approximate weight*		130	140	340	350	390	625

* with standard composite silicone insulator, creepage distance 31 mm/kV

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Current and voltage – our passion

HV HIGH VOLTAGE
MV MEDIUM VOLTAGE
LV LOW VOLTAGE