



Current transformers

Outdoor operation
SF₆-gas insulated

JGF (245 – 550) kV



PFIFFNER

Current and voltage – our passion



General description

Current transformers type JGF are used in high voltage switchgear within the 245–550 kV range. They transform high current into standardised, equivalent values for meters, measuring and protection devices.

The current transformer section is located in the pressure-resistant head housing. The current transformer cores are fitted in a protective core shell made of massive cast aluminium, which is connected short-circuit proof to the bushing. The secondary outlets are passed through the SF₆ /air bushing in the connection terminal box on the base construction of the insulator.

The electrical field distribution along the insulator is optimised by a special layout of the control electrode inside the silicone composite insulator.

The housing components consist of helium-tight, corrosion-resistant cast aluminium. All housing components under pressure are individually type-tested according to applicable pressure vessel standards.

The SF₆ gas density is monitored temperature-compensated by a gas density monitor with alarm contacts. The special design means the function of the gas density moni-

tor can be checked without dismounting it.

A corrosion-resistant metal rupture disc, protected by a metal cover, located at the top of the head housing ensures safe pressure relief in case of error.

The generously designed terminal box is equipped with a cover that opens sideways.

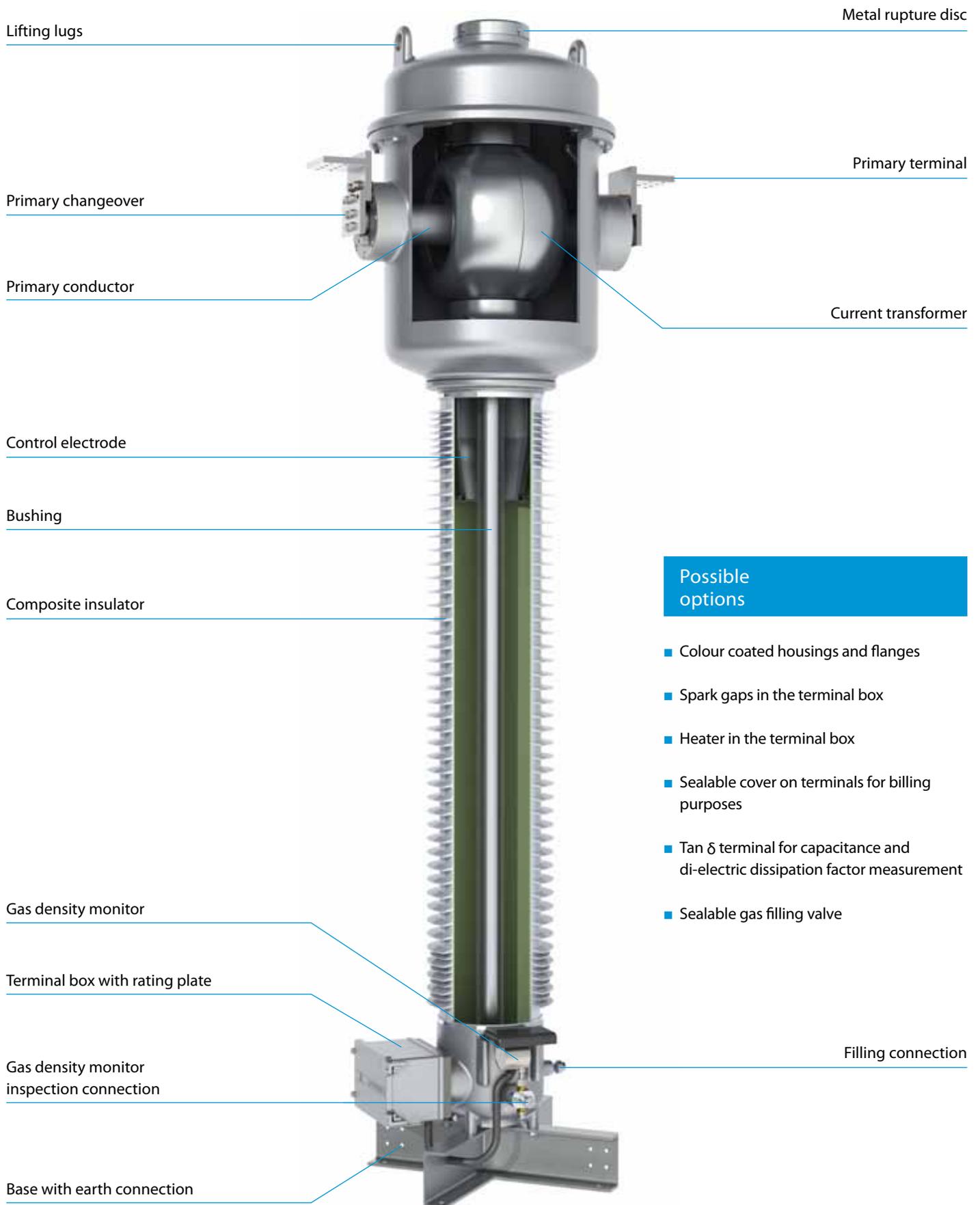
Pure SF₆ gas is used for ambient temperatures up to -40°C. The transformer is filled with a mixed gas for lower ambient temperatures up to -60°C.



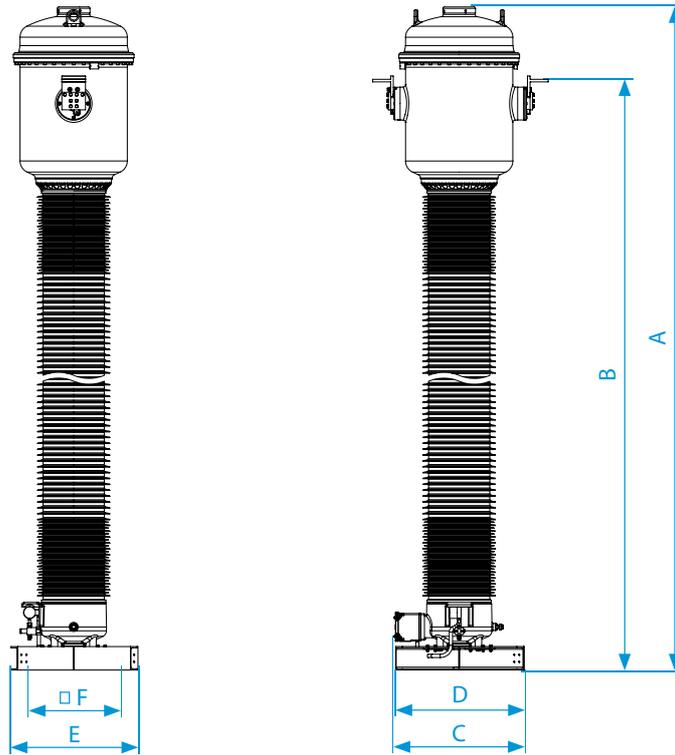
Advantages of current transformers

- High operating safety through optimal current distribution in the field-controlled bushing
- Low weight and high creepage resistance through the use of composite insulators
- High flexibility due to simple primary and secondary changeover
- High operating safety through pressure relief with rupture disc

Design



Technical data



Type JGF		245	300	330	362	420	550
Standard		IEC / IEE					
Highest voltage for equipment	kV	245	300	330	363	420	550
Rated power-frequency withstand voltage	kV	460	460	460	575	630	680
Rated lightning impulse withstand voltage	kV	1050	1050	1175	1175	1425	1550
Frequency	Hz	50 / 60					
Primary rated current	A	≤ 5000					
Secondary rated current	A	1 / 5					
Rated short-time thermal current [I _{th}]	kA/3s	≤ 80					
Rated dynamic current [I _{dyn}]	kA	≤ 200					
Accuracy class		0.1 – 3; P; PR; PX; TPS; TPX; TPY; TPZ					
Max. number of CT cores		8					
Nominal operating / transport overpressure (20°C)	bar	4 / 0.5					

Type JGF		245	300	330	362	420	550
Height of unit*	A mm	4197	4197	5370	5370	5700	6530
Height to primary terminal*	B mm	3681	3681	4730	4730	5090	5890
Depth of unit including terminal box	C mm	845	845	1088	1088	1088	1088
Depth of unit base	D mm	749	749	1088	1088	1088	1088
Width of unit base	E mm	436	436	1075	1075	1075	1075
Distance between screw holes at base	F mm	600	600	900	900	900	900
Min. creepage distance*	mm	6700	7500	8250	9050	10500	13750
Gross weight / gas weight, approx.*	kg	670 / 38	670 / 38	-	-	1130 / 47	1200 / 50

* with standard composite silicone insulator, creepage distance 25 mm/kV



Highlights



Easy primary changeover

- A clear and easy primary changeover with a ratio of 1:2 or 1:2:4 is available.
- The primary changeover is adjusted with one metal plate at each side of the head only.
- No need to dismantle or move the primary connections during adjustment.



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 sideways, is secured with captive screws. It can accommodate terminal blocks, fuses, spark gaps and sealable covers.
- The terminal box is equipped as standard with a blind flange. Cable glands can be installed on request.
- The terminal box has a protected ventilation aperture to prevent condensation.

Global presence

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HV

HIGH VOLTAGE

MV

MEDIUM VOLTAGE

LV

LOW VOLTAGE