

GL 310 S, GL 311 S, GL 312 S

Live Tank Circuit Breakers from 100 kV to 145 kV

The Right Choice for Temperatures Down to -30°C

Three-pole and single pole operated mechanism live tank circuit breakers for outdoor installation are designed for temperatures down to -30°C and feature the latest technologies in interrupting chambers and spring-operated mechanisms.

Safety

- Pressure relief device prevents from injuries and damages in case of over-pressure within the circuit breaker
- Support frame design ensures personnel cannot be injured by cinematic moving parts
- Dedicated tools are designed to assemble and disassemble circuit breaker parts in safe condition

Easy Installation and Light Maintenance

- Preset and pre-filled at factory before shipping - no adjustments necessary during installation and commissioning
- Long maintenance intervals
- Easy access to desiccant bags and simple inspections
- Two-stage transducer densimeters are within easy reach, on the front side of the circuit breaker, for periodic/regular check

Quality and Testing

GE Vernova's live tank circuit breakers meet the latest versions of national and international standards, such as IEC 62271-100. The entire development and production procedures are fully compliant with the latest ISO 9001, ISO 14001 and OHSAS 18001 quality standards.



High Performance

Live tank circuit breakers ensure a high level of reliability every day.

Even under extreme conditions and climates or in highly active seismic areas customers can count on live tank circuit breakers made by GE Vernova.

Key Benefits

- High reliability even in cold areas down to -30°C
- Single-motion technology
- SF₆ volume reduced by 15% compared to previous version while optimizing the internal volume
- Lower environmental impact : CO₂ equivalence of gas mass reduced by 29 tons
- Quick and easy installation and commissioning
- Quality and testing according to latest versions of national and international standards



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Components

- Interrupter chamber with self-blast system and reliable single-motion technology
- Reliable spring-operated mechanism with position indicator clearly visible from outside
- Pressure relief system for passive protection of substation and personnel
- Field-proven, temperature-compensated density monitor with two-stage transducer and three-color dial
- Easy access to the SF₆ filling connection (DIL0 type)
- SF₆ non-return (check) valve on each pole column
- Opening and closing spring in drive
- Steel support frame design prevents corrosion issues and provides high safety for employees and high protection against environmental ingress (e.g. ice)
- Optimum designed cinematic between mechanism and interrupting chamber to increase mechanical energy efficiency and mechanical moving parts reliability

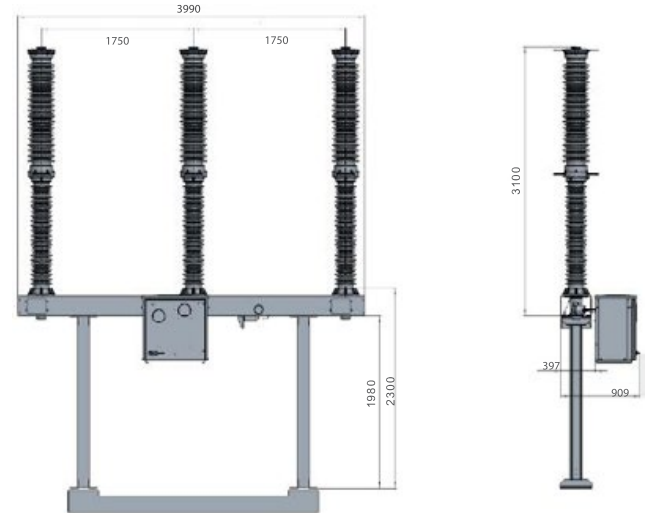
Ratings

BREAKER TYPE	GL 310/311/312 S
Rated voltage	100 kV to 145 kV
Rated frequency	50 Hz
Rated normal current	3150 A
Rated short-circuit breaking current	40 kA
Rated short-circuit making current	100 kA
Rated duration of short-circuit	3s
First Pole to clear factor	1.3 / 1.5
Opening time	27-37 ms
Breaking time	50-60 ms
Closing time	≤70 ms
Average ambient temperature**	-30°C up to +40°C
Design altitude*	1000 m.a.s.l.
Pollution level**	25 mm/kV

* Standard values according to IEC. Higher design altitudes available on request

** Other pollution and temperature levels available on request

Dimensions



(dimensions in mm)

Technical Characteristics

- **Spring-operated mechanism / degree of protection:**
FK 3-1 / IP 55
- **Rated operating sequence:**
O-0.3s-CO-3min-CO resp. CO-15s-CO
- **Rated supply voltage:**
From 24 V up to 250 V dc/ac

Product Options

On request:

- **More phase center distances**
- **CBWatch monitoring system**
- **Composite insulators**

Gas Data*

The functioning of this equipment relies upon SF₆, a fluorinated greenhouse gas.

	SF ₆
Average mass of gas/mixture in the equipment (kg)*	5.3
GWP ₁₀₀ of gas/mixture (CO ₂ -equivalent)	24,300
CO ₂ -eq of gas/mixture in the equipment (t _{co2-eq})*	128.8

*For information purposes only. It varies depending on the equipment considered.

For more information, visit
gevernova.com/grid-solutions

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