



Grid Solutions
a GE and Alstom joint venture

CIRCUIT BREAKERS PRODUCT SOLUTIONS

GL 316 / GL 316X

Live tank circuit breaker for 420 kV

Live tank SF₆ circuit breakers use self-blast technology and benefit from the latest technological developments, as well as our field-proven, time-tested experience in high voltage switchgear in accordance with the IEC62271-100 standard.



CUSTOMER BENEFITS

- High mechanical endurance and very low restrike probability according to IEC 62271-100 class M2 and C2
- Disconnecting option for easy and fast installation
- Closing resistor located in the same gas volume as breaking chamber

Reliable, operator-friendly and economical

Live tank circuit breakers for outdoor installations feature third-generation self-blast interrupter chambers and spring-operated mechanisms (FK). The field-proven interrupter chamber operates on the basis of the energy-optimised self-blast principle. The FK3 type mechanisms equip the entire range of circuit breakers with more than 180,000 references worldwide.

COMPONENTS

- Single pole operating design
- Two self-blast interrupting chambers per pole
- Spring mechanism FK3 equipped with position indicator visible from outside
- Field-proven temperature-compensated density monitor with two-stage transducer and three-colour dial
- Easy access to the SF₆ filling connection (type DILO)
- Sealings suitable for temperatures down to -60° C
- Hot-dip galvanised steel parts and mechanism housing completely of aluminium

OPTIONS

- Standard low voltage equipment provided, additional equipment is available
- Composite insulators available
- Seismic dampers for high seismic request can be provided
- Pressure relief system for passive protection of both substation and personnel
- RPH3 controller - point-on-wave tripping and closing relays
- CBWatch - compact and modular circuit breaker monitoring solution
- Closing resistors solution (GL 316D) to limit high and damaging overvoltages
- Grading capacitors depending on specifications

INSTALLATION AND MAINTENANCE

- Preset at factory prior shipping - no adjustments during installation or commissioning
- Disassembly of interrupter chamber without removal of entire pole column possible

TESTING

The live tank circuit breakers meet the requirements of national and international standards. This has been confirmed by comprehensive type tests based on the latest versions of IEC standards.

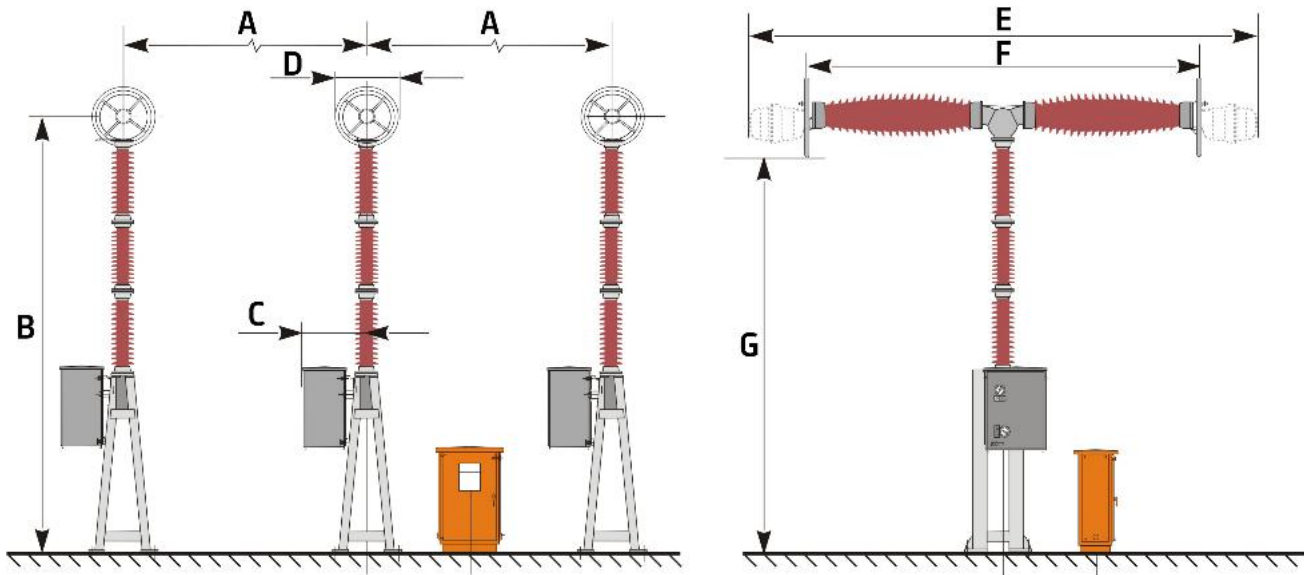
PROVEN QUALITY

Grid solutions' quality (ISO 9001:2008), environmental (ISO 14001:2004) and occupational health and safety (OHSAS 18001:2007) management systems determine the development and production procedures for our high voltage circuit breakers. These systems ensure high quality of the products and services, which are confirmed by regular audits.

RATINGS

Breaker type		GL 316 / GL 316D	GL 316X / GL 316XD
Number of breaks / phase		2	2
Rated normal voltage	kV	420	420
Rated normal current	A	4,000	5,500
Rated frequency	Hz	50/60	50
Rated dielectric withstand (up to 1,000 m)* (to earth / accross open device)			
- At power frequency	kV	520/700	520/700
- At lightning impulse (1.2 / 50 μ s wave)	kV (peak)	1,425/1,425 (+240)	1,425/1,425 (+240)
- At switching impulse	kV (peak)	1,050/900 (+345)	1,050/900 (+345)
Rated short-circuit breaking capacity			
-Periodic component (r.m.s. value)	kA	50	63
First pole-to-clear factor		1.3	1.3
Peak short-circuit withstand current	kA (peak)	137	173
Rated line-charging capacitive switching		Class C2	Class C2
Mechanical endurance		Class M2	Class M2
Breaking time	cycles	2 - 2,3	2 - 2,3

* For other values, please contact Grid Solutions.



DIMENSIONS

	A	B	C	D	E	F	G
GL 316 / GL 316X	5,300	6,612	931	1,026	N/A	4,899	6,099
GL 316D / GL 316XD	5,300	6,612	931	1,026	6,442	4,899	6,099

For more information please contact
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