

Main technical characteristics

Parameter	Value
Rated voltage and maximum voltage corresponded to it, kV	110/126
Power frequency test voltage, kV	- between disconnectors contacts 230 - relative to ground and between circuit-breakers contacts 265
Rated voltage and maximum voltage corresponded to it, kV	- relative to ground and between circuit-breakers contacts 550 - between disconnectors contacts 630
Rated current, A	- of collecting buses 3150 - of other modules 2500
Short time electrodynamic current, kA	102
Short-time thermal current, kA	40
Duration of short-time thermal current, s	- for the main contour 3 - for the grounding contour 1
Rated frequency, Hz	50
Sf6 filling pressure*, MPa (kgf/cm ²):	- for circuit-breaker 0,5 (5) - for other modules 0,4 (4)
Actuation pressure of safety alarm*, MPa (kgs/cm ²):	- for circuit-breaker 0,45 (4,5) - for other modules 0,37 (3,7)
Incidental pressure*, MPa (kgf/cm ²):	- for circuit-breaker (lock pressure) 0,42 (4,2) - for other modules 0,35 (3,5)
SF6 leakage per year, % from gas mass, no more	0,5
Cell overall dimensions, mm	- width 1600 - depth 1600 - height 4525
Mass, kg	4200

* adjusted to plus 20°C, absolute

Principal circuit-breaker parameters

Parameter	Value
Rated breaking current, I _{rat} , kA	40
Percentage composition of aperiodic component β, %, no more	45
Normed parameters of making current, kA, no more:	- peak current, kA 102 - initial acting value of periodic component 40
Own breaking time t _b , s no more	0,038
Total breaking time, t _b , s no more	0,05+0,005
Dead time under automatic high-speed reclosing, t _{st} , s	0,3
Rated cycles under switching	O-t-CO-180s-CO O-t-CO-20s-CO
Uniformity of poles operation, s no more	- under closing 0,0018 - under opening 0,0015
Absorbed current of closing electromagnet (EC), opening electromagnet (EO) and opening electromagnet of protective (EOprt) circuit-breaker drive, A, no more	3

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110 kV SF6-gas insulated switchgear (GIS)






Intended use

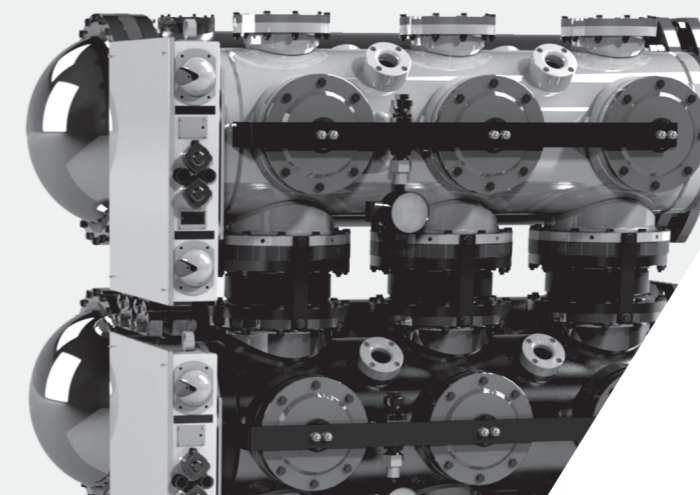
GIS-high-voltage SF6-gas insulated switchgear is intended for reception, distribution and transfer of electric energy in three-phase alternating current networks with 50 Hz frequency for 110, 110 kV rated voltage.

GIS cell of type YATE-110L/2500 U2 represents a set of modules: circuit-breakers, combined disconnectors-earthing switch, high speed earthing switch, current transformers, connecting devices, cable termination or air bushings, current-conducting wire and others placed into metal sheath filled with sulfur hexafluoride.

SF6-gas insulated switchgear with YATE cells-110L/2500 U2 manufactured by CJSC «ZETO» was developed for application as a component of substations and outdoor electric generating station at a temperature of ambient air up to minus 45°C.

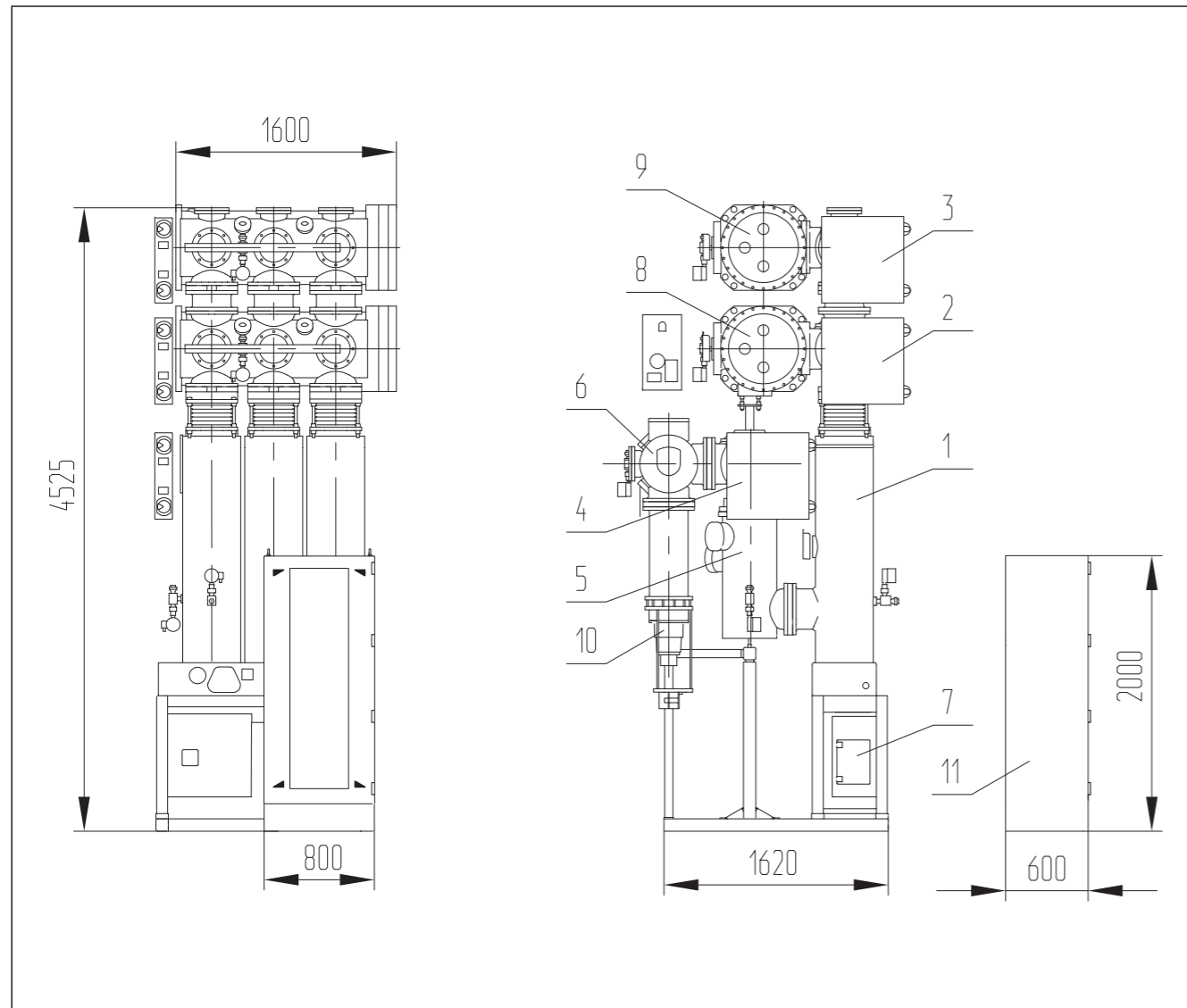
Operating conditions

-  Rated values of climatic factors of an external environment are as per GOST 15150 and GOST 15543.1.
-  Maximum seismic load is up to 9 points as per scale MSK-64.
-  Altitude no more 1000 m.
-  Environment is free of chemically active and dangerous foreign matter in the ratio of explosion.
-  Type of climatic category is U, category is 2 as per GOST 15150 (minus 45°C plus 40°C).

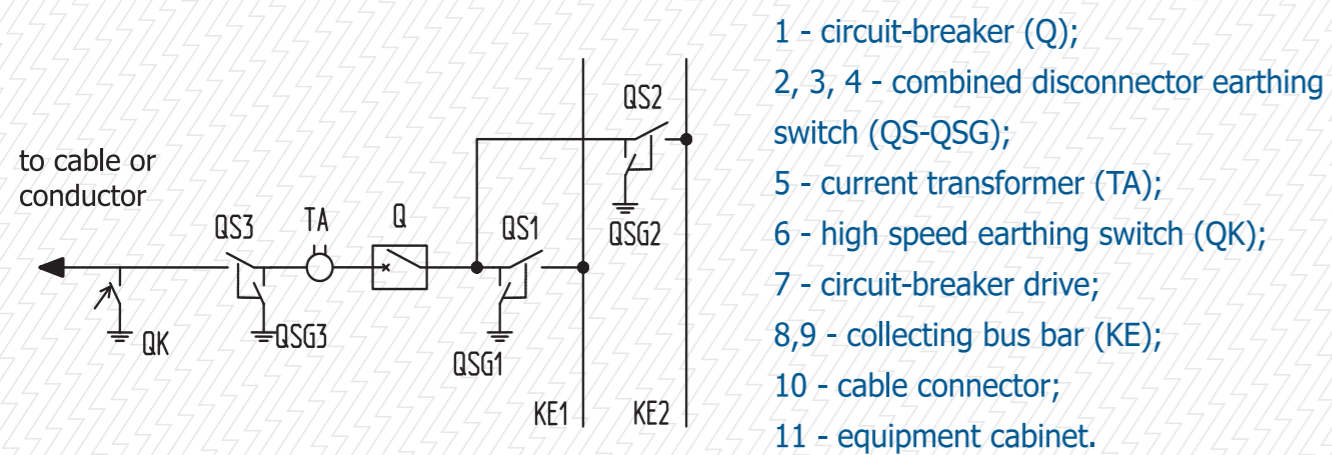


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Line cell of type YATE-110L-40/2500 U2



Electric schematic diagram



- 1 - circuit-breaker (Q);
- 2, 3, 4 - combined disconnector earthing switch (QS-QSG);
- 5 - current transformer (TA);
- 6 - high speed earthing switch (QK);
- 7 - circuit-breaker drive;
- 8,9 - collecting bus bar (KE);
- 10 - cable connector;
- 11 - equipment cabinet.

Example of carried arrangements as per scheme 110-13 (two main bus bars)



Electrical scheme

