GAS-FILLED MOBILE TEST INSTALLATION UVPG-250

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Gas-filled mobile test installation UVPG-250 is designed for tests of electrical equipment insulation with power frequency voltage of up to 250 kV inclusive. Owing to a low level of self- partial discharges (PD) it can be used for testing insulation with PD measurement at voltage of up to 200 kV inclusive.

Distinctive features of UVPG-250 installation are its mobility, relatively small overall dimensions and mass, minimum time and money expenditure for its technical maintenance and preparation for work, comfort conditions for maintenance staff while performing tests by means of the installation.

Exterior and make-up of the equipment of the test installation are shown on photo and in Figure.

Control block comprises a set of guards, blockings, switching apparatus and indicating devices for safe performance of tests. High voltage measuring system of 10-250 kV of the installation consists of an induction voltage divider, built-in into the test transformer for 250 kV (ST-250) and a digital peak voltmeter for 250 kV, representing the test voltage direct in kilovolts. Measuring system of C_x and $tg\delta_u$ of the installation consists of a gas-filled capacitor built-in into the test transformer for 250 kV and AC bridge with proper cables. During tests of insulation of electrical equipment up to 10 kV inclusive the following is used: step-up transformer for 10kV (ST-10), bridge, “normal-reverse” circuit switch, shorting device. For measuring high voltage, C_x and $tg\delta_u$, a gas-filled capacitor is used, built-in into bridge. By means of a low-voltage measurements unit (LVMU) different kinds of tests can be conducted, when alternating current and voltage do not exceed 72 A and 380V, respectively, and at direct voltage – 25A and 12V, respectively.

The installation is supplied fully completed, accompanied by the following technical documentation: passport; operating manual; passport on a vessel operated under pressure; outline drawing, certificate, warrant of metrological attestation of high voltage measuring system, C_x and $tg\delta_u$.

TECHNICAL CHARACTERISTICS

Name of parameter, characteristic	Value	
	ST-250	ST-10
Rated primary voltage at the test installation input	220 V	220 V
Range of secondary voltages of the test installation	from 10 to 250 kV	from 1 to 10 kV
Range of operating frequencies	50±1 Hz	
Maximum short-term capacity	30 kVA	-
Time of continuous operation of the test installation at the maximum capacity	5 min	-
Maximum capacitance of the test object during measurements of C_x and $tg\delta_u$	1500 pF	40000 pF
Level of self-partial discharges in the step-up transformer and high-voltage capacitor at voltage of 200 kV, max	5 pC	-
Error of test voltage measurement	< ± 3%	
Error of measuring capacitance of the objects under test	< ± 1%	
Absolute error of measuring tgδ of the objects under test	$tg\delta = \pm (2\cdot10^{-4}+1\times10^{-2}\cdot tg\delta_x+5\times10^{-6}\frac{Cx}{Co})$	
Mass	4400 kg	

Parameters and characteristics complectation of installation indicated in the Table may be altered by agreement between the User and the Manufacturer.

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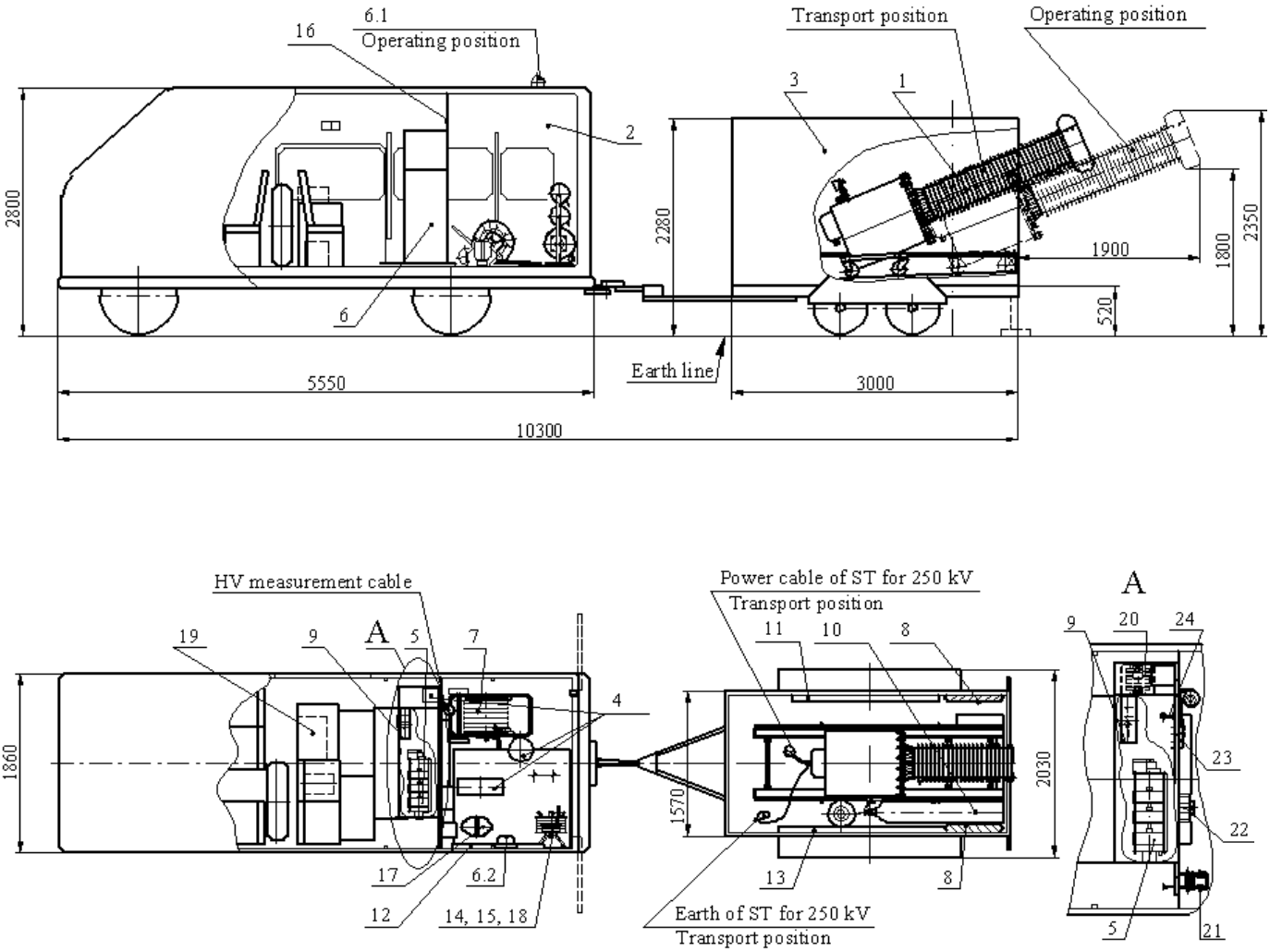

1 – step-up transformer for 250 kV;
2 – "GAZel' " passenger car;
3 – trailer;
4 –alternating current bridge;
5 – voltage regulator;
6 – control block;
6.1 – illuminated board (remote light);
6.2 – electric bell;
7 – power cable carriage;
8 – high-voltage busbars;
9 – current-limiting reactor;
10 – gas supply system;
11 – ladder;
12 – earth rod for 10 kV;
13 – earth rod for 220 kV;
14 – main earth;
15 – protective earth;
16 – partition;
17 – step-up transformer for 10 kV;
18 – power cable;
19 – cabinet for arrangement of accessories;
20 – intervening transformer for 0.38 kV;
21 – high-voltage switch;
22 – short-circuiter;
23 – low-voltage measurements unit (LVMU);
24 – artificial lighting

Figure - Gas-filled mobile test installation UVPG-250

VIT
ISO 9001 BUREAU VERITAS Certification
№ UA227992

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