**About VOLT-SPB**

VOLT-SPB is a specialized manufacturer of grounding systems for high-resistance soils. Our equipment is successfully used at the facilities of the largest Russian enterprises: JSKC Gazprom, JSKC Gazprom net, JSKC Rosneft Oil Company, JSKC Novatek, USC Russian Railways, PJSC Rosamos, PJSC Rusal, PJSC MMC Norilsk Nickel, JSKC Phosagro, JSKC Energi Ruska, Highland Gold Mining Limited, JSKC Fortum and etc.

**Chemical ground electrodes UDAV**

The first chemical ground electrode developed by VOLT-SPB in 2012. It is actively used in the construction and reconstructions of facilities located in high-resistance soils or cramped conditions.

**Chemical ground electrodes PITON**

The electrode PITON has a diameter of 219 mm, a larger volume of salt filler and an extended time interval between maintenance. Between 2015 and 2019 was actively used at facilities located in remote and hard-to-reach areas (mainly on the Yamal Peninsula). Since 2018, VOLT-SPB has been recommending maintenance-free models of N-UDA and 10 Om electrodes for use.

**Chemical ground electrodes UDAV**

Key parameters:
- Modification: vertical/straight/tilted
- Electrode diameter: 159, 219 mm
- Electrode length: 0.5, 0.75, 1 m, service required.
- Very easy to install due to needle penetration.

**Chemical ground electrodes PITON**

Key parameters:
- Modification: vertical/straight/tilted
- Electrode diameter: 219 mm
- Electrode length: 0.5, 0.75, 1 m, service required.
- Very easy to install due to needle penetration.

**Maintenance-free chemical ground electrodes N-UDA**

The electrode N-UDA was developed by VOLT-SPB and presented at the International Forum «Electric Grids» – 2018. The setting switch does not require additional backfilling of salt mix during operation, which minimizes maintenance costs. Sales leader among chemical ground electrodes in the company’s line for 2020-2021.

**Maintenance-free chemical ground electrodes 10 Om**

The electrode 10 Om was developed by VOLT-SPB and presented at the International Forum «Electric Grids» – 2019. In addition to improved characteristics, the design of the chemical ground electrode provides for a moisture accumulation module for efficient operation in dry soils. This electrode model has no analogues and is already used on objects.

**Benefits of chemical ground electrodes**

- High efficiency
- Minimal space
- Constant resistance
- Durability
- Budget savings
- Proved experience
- Individual solutions
- Technical support
- Professionalism
- Easy installation

**We always continue to grow**

- For 12 years we have been developing new models of electrodes and improving existing ones so that the best solutions in the field of grounding are applied at our customers' facilities;
- The current QMS, tests and positive feedback from customers, as well as an expert rating of AA reporting confirm the high level of reliability of the company.

**Chemical ground electrodes**

- Designed for use in high-resistance soils or in a limited area to accommodate the ground loop;
- The principle of operation is based on the local replacement of the near-electrode soil with a ground-enhancing backfill and an artificial increase in the electrical conductivity of the soil surrounding the electrode due to the use of a salt mix.

**Maintenance-free chemical ground electrodes**

- Additional filling of salt mix is not required;
- Do not require maintenance costs;
- Extended warranty period (for electrodes 10 Om);
- Improved technical characteristics.
Grounding calculation

You can calculate the grounding resistance and the required number of chemical ground electrodes for your project in two ways:

- by entering the input data into our online calculator at www.volt-spb.ru/calc2;
- or by filling out the questionnaire on our website www.volt-spb.ru/calc/questionnaire/ and submitting the completed form to info@volt-spb.ru.

Why VOLT-SPB:
- the best quality products at a reasonable price;
- many years of supply experience;
- timely fulfillment of the obligations assumed;
- focus on customer satisfaction.

Certificates

Chemical ground electrodes have all the necessary quality certificates, inspections and test reports:

- INTERGASZERT certificate (Voluntary Certification System of Russian Gazprom);
- certificates conformity with ISO 9001:2015 and Company standard Gazprom 9001-2018;
- certificate of goods origin ST-1 and the permission from the Ministry of Industry and Trade of Russia;
- protocols of the Russian State University of Oil and Gas named after M. Gubkin as part of the confirmation of compliance with GOST R REG 62561-2016 and a thirty-year service life.