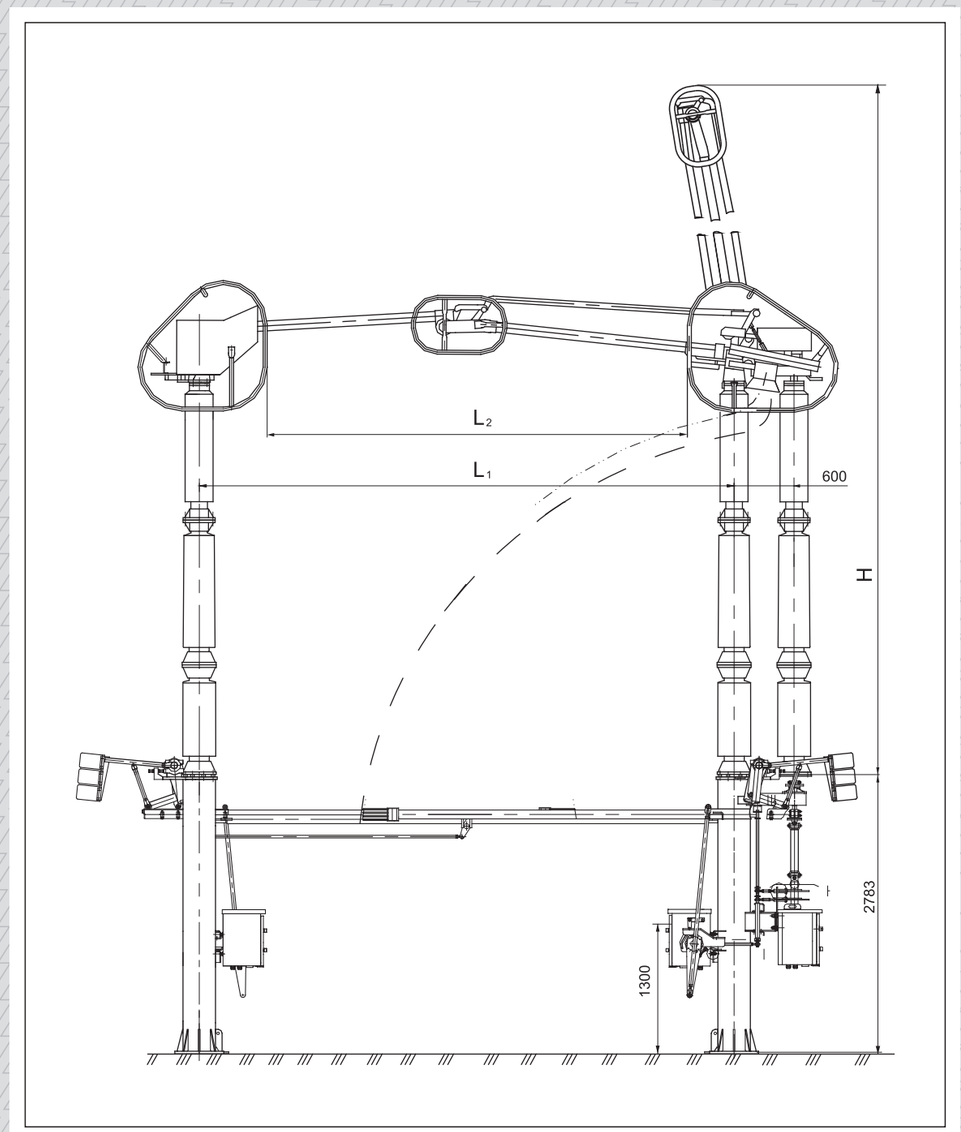
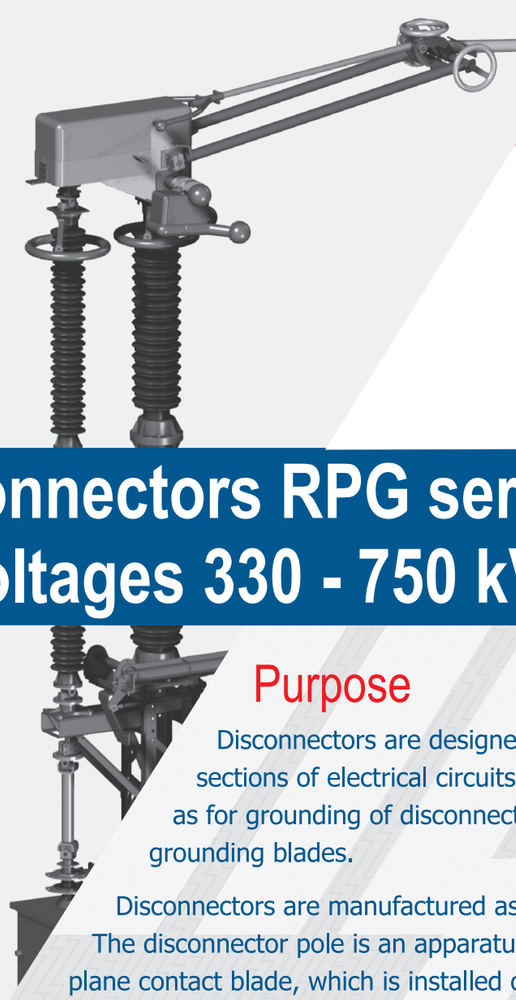
Overall and installations dimensions



Design configuration	L	L1	L2	H
RPG-330/3150 UHL1 RPG-330.11/3150 UHL1	6290	3950	2800	5550
RPG-500/3150 UHL1 RPG-500.11/3150 UHL1	7690	5350	4200	7400
RPG-750/3150 UHL1 RPG-750.11/3150 UHL1	9710	7370	6000	10217



Disconnectors RPG series for voltages 330 - 750 kV

Purpose

Disconnectors are designed to switch on and off currentless sections of electrical circuits, which are under voltage as well as for grounding of disconnected areas with the help of grounding blades.

Disconnectors are manufactured as separate poles. The disconnector pole is an apparatus with folding in the vertical plane contact blade, which is installed on one of the two support insulators. On the second support insulator, fixed disconnector contact is installed. Movement from drive to the contact blade is transmitted by rotary insulator via the system of rods and levers. Disconnectors depending on the order are made with one or two grounding blades. Between contact blade and grounding blades are provided mechanical, electrical and electromagnetic interlocks. Contact and grounding blades are controlled remotely by electric motor drive type PD-11 UHL1. Drives are completed with switching devices like KSAM 12 and modernized electromagnetic interlocking. Supporting porcelain insulators of disconnectors are installed on support racks included in the delivery package.

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Main technical specifications

Name of technical parameters	330 kV		550 kV		750 kV	
	RPG-330/3150 UHL1	RPG-330.II/3150 UHL1	RPG-500/3150 UHL1	RPG-500.II/3150 UHL1	RPG-750/3150 UHL1	RPG-750.II/3150 UHL1
Rated current, A	3150					
The largest peak of the rated short-term current (electrodynamics durability) current), kA	160					
Rated short-term withstand current (thermal stability current), kA	63					
The flow time of the nominal short withstand current, seconds - for the main current-carrying circuit - for grounding blades	 2 1					
Test short-term (one-minute) voltage of industrial frequency, kV - phase to ground - between open contacts	 560 750		 760 1030		 950 1100	
Test voltage of lightning impulse, 1.2/50 msec, kV - phase to ground - between open contacts	 1175 1450		 1550 2050		 2100 2400	
Switching pulse test voltage, kV - phase to ground - between open contacts	 950 1245		 1230 1660		 1550 1800	
Creepage distance of external insulation, cm	580	950	840	1260	1260	1770
Permissible mechanical load on the terminals, N	1500					
Permissible ice thickness at a wind speed of 15 m/s	20					
The method of controlling the contact and grounding blades	electric motor					
Presence of electromagnetic and mechanical interlocks	there is					
Mass, kg	2545	2706	3105	3267	3340	3715

Advantages

- The rotary insulator, which transmits the movement to the contact blade, works only for torsion.
- When adjusting the disconnector, the turn of the support insulators is made together with the supporting racks.
- Screen fittings and anti-icing covers are made of aluminium alloys, which excludes service (painting) in operation during all service life.
- All steel parts of disconnectors and fasteners have resistant anticorrosive coatings by hot and thermal diffusion zinc.
- The contact system is made of copper and aluminium alloys with coating of the contact surfaces with tin and silver. The contact surfaces of the detachable blade are soldered with silver plate.
- All main friction units are made on the basis of sealed ball bearings with long-term lubricant and do not require additional lubrication during the whole service life.
- The delivery set includes connecting elements between the disconnector and the drive, supporting racks for insulators, fasteners for connecting of the feeding bus and fixing of support columns to the foundation.
- Disconnectors are supplied in integrated assembly units, which allows significantly reduce costs and installation time.

Conditions of operation

- The upper operational value of air temperature is + 40°C.
- The lower operational value of air temperature is -60°C.
- The thickness of the ice coating at rime is 20 mm.
- Wind speed at icing 15 m/s.
- Wind speed in the absence of ice:
  - in a static state and at disconnection -40 m/s;
  - at closing -34 m/s.
- Seismic resistance in accordance with MSK-64 scale is 8 points.

Design Features

The semi-pantograph type RPG disconnectors have the following design features:

- Reduced size of disconnectors width at the level of parts that are under voltage, which allows reducing the distance between the poles and the area occupied by them at substations, by 20%.
- The lamellas of the detachable contacts of the main and grounding blades are made of beryllium bronze alloy and, due to their elasticity, create a contact pressing that does not require adjustments in operation during total service life.
- The fixed contact of the rotary type creates small spreading force acting on the insulators, when turned on.
- In the joint of folding contact blade sliding contacts are placed, whose surfaces are coated with silver.
- Flexible grounding connections are made of braided copper wire coated with tin.
- The grounding blades are securely fixed from the forces of kick at short-circuits currents.
- Full protection of detachable contacts of the contact blade against icing.
- Support and rotary insulators are made of high strength porcelain.

Symbolic designation

RPG X_1-X_2.II/3150 UHL1

R	-	Disconnector;
P	-	Semi-pantograph type;
G	-	The degree of insulation contamination according to GOST 9920;
X_1	-	With horizontal break;
X_2	-	The number of grounding blades (1 or 2);
II	-	Rated voltage 330, 500 or 750 kV;
3150	-	Rated current, A;
UHL	-	Climatic configuration according to GOST 15150;
1	-	Category of placement (outdoor installation) in accordance with GOST 15150.