

Pole-mounted MV/LV transformer stations



APPLICATION

The stations are designed to supply rural, urban-neighborhood and small-scale industry consumers from a 15 kV or 20 kV medium voltage overhead or cable network.

DESIGN

The station structure is based on E-type spun prestressed concrete poles. It is founded by means of plate or well-shaped stopes.

The substation's support structure is adapted to fulfill, to a limited extent, the function of a curb pole for medium- and low-voltage lines. The power supply from the overhead line can be made with AFL 6-35 (50, 70) wire or insulated wire of 35 (50-70) mm². The station can use transformers of various types without a maintainer with a capacity of up to 630 kVA.

The new generation of MV/LV pole stations takes into account the use of new materials and equipment, as well as new operational requirements, aimed at simplifying operation and increasing operational safety.

EQUIPMENT

Medium voltage side power supply

- AFL bare wires 6-35; 50;(70).
- 35;50;(70) insulated cables.
- Three-core cables.
- Single-coating.
- Single-conductor cables with polyethylene insulation and small sheath.

Transformer power

- Typical up to 250 kVA.
- 400 kVA
- Up to 630 kVA – max. weight of the transformer 2500 kg.

Rod type

- E-type spun prestressed concrete poles.

Insulation

- LWP 8-24, LWP 8-245, LWZ 8-24 standing insulators.
- LP 60/5u, LP 60/8, CS70AA20, CS70AA30, HASDI, SDI pendant insulators.

Degree of tightening

- 0°; 1°; 2°; 3°.

Type of soil

- Medium and weak.

Type of foundation

- In a drilled hole.
- Dug holes, wells.
- Slab foundations.

Climate zones

- I, II, III and areas with increased rime.

Low voltage circuits

- Overhead with bare or insulated conductors.
- Cables.

Low voltage switchgear

- RST switchgear up to 1250A in an aluminum enclosure in the I or II protection class, equipped with the following modules: power supply and drainage, measurement and balancing, site lighting. Pole-mounted switchgear attached to the station or cable-mounted on the foundation next to the station.



RATED PARAMETERS

Voltage rating:

15/0,4 kV; 20/0,4 kV, 30/0,4 kV

Rated insulation voltage:

20 kV

STATION TYPES, TRANSFORMER WEIGHT AND POWER

STSR type stations

STSR-PO-20/25 - 25 kVA	350 kg
STSR-20/400 - 250 - 400 kVA	1500 kg
STSRp-20/400 - 400 kVA	2000 kg

STSRs type stations

630 kVA	up to 2500 kg
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STS p (b) type stations

STS-20/40 - do 40 kVA	350 kg
STS-20/100 - do 100 kVA	750 kg
STS-20/250 - 160 - 250 kVA	1250 kg
STS-20/400 - do 400 kVA	1650 kg

STN type stations

STN-20/100 - do 100 kVA	750 kg
STN-20/250 - 160 - 250 kVA	1250 kg
STN-20/400 - 400 kVA	1650 kg
STN-20/630 - 630 kVA	2150 kg