

APPLICATION

Capacitor voltage transformers are used to separate measuring and protection equipment from high voltages and to transform measured voltages to the values suitable for measuring and protection equipment. They are also used for high-frequency signal transmission.

STANDARDS

The capacitor voltage transformers are designed in accordance with IEC, VDE, ANSI, BS and other standards.

DESCRIPTION OF MAIN PARTS

Capacitor voltage transformer is a combination of capacitor divider and electromagnetic unit.

Capacitor divider

- The capacitor divider consists of a set of plate-shaped, series connected capacitors made of composite dielectric. Inside the porcelain insulator there is an elastic expansion bellow for compensation of dilatation of synthetic impregnant.
- The capacitor divider is a unit consisting of one or more hermetically sealed independent parts, that are placed one on the top of another depending on the rated line voltage.
- The insulator is made of high-quality porcelain, cylindrically shaped and brown-glazed (if requested, the glaze can be of some other colour). Creepage distance depends on ambient air pollution at the place of installation. Standard creepage distances are 20, 25 or 31 mm per kV of maximum voltage of the equipment,

depending on client's request. Besides the porcelain, the insulator, as the outside insulation, can be also made of composite material (GFK silicone).

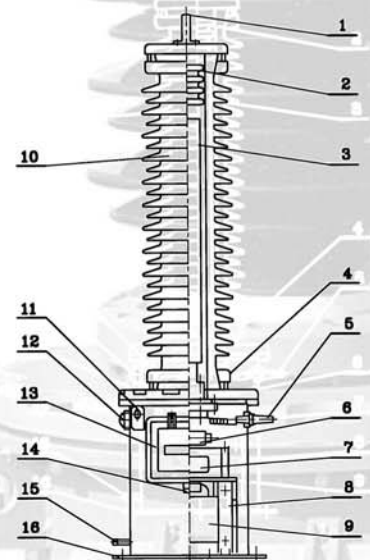
- Primary terminals are made of aluminium ~ 30 x 80 mm.
- Secondary terminals are inside the secondary terminal box, together with earthing terminal for secondary windings. They are made of M8 stainless steel.

Electromagnetic unit

- The electromagnetic unit consist of a reactance coil, an intermediate transformer and of a system for suppression of ferroresonant oscillations in the transformer. There is also a closed spark gap in the tank with the purpose to protect the medium-voltage capacitor and the electromagnetic unit from overvoltages.
- The electromagnetic unit is filled with high-quality oil with added inhibitor, which improves its aging resistance. Degassing and dehydrating of oil are made in high vacuum up to a moisture content less than 10 microgram per gram, what ensures excellent dielectric properties. We guarantee that the transformer oil in our instrument transformers is free from any polychlorinated biphenyls and terphenyls (PCB and PCT).
- The tank of the electromagnetic unit is made of welded steel plates. High quality anti-corrosive protection is achieved by hot dip galvanizing.
- Seismic resistance of the transformer is higher than 0.3 g.

1. Primary terminal
2. Metallic below
3. Capacitor part
4. Flange
5. Terminal for HF device
6. Spark gap
7. Damping unit
8. Intermediate transformer

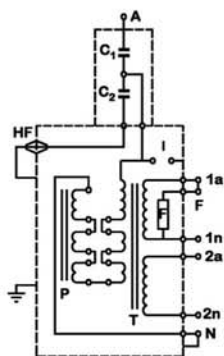
9. Reactor
10. Insulator
11. Transport catch
12. Oil level indicator
13. Secondary terminal box
14. Cable gland
15. Oil gauge
16. Tank



MAIN CHARACTERISTICS

- Rated secondary voltage:
100/√3, 100/3 or 110/√3, 110/3
- Total capacitance: see table I
- Total thermal power 2000 VA
- The number of secondary windings, rated load of each winding, measuring and/or protection accuracy classes, rated voltage factor and rated frequency are in accordance with client's requests or agreed standard.
- The standard inductive voltage transformer designs are intended for ambient temperatures -25 / +40 C.

SHEMATIC FIGURE OF CAPACITOR VOLTAGE TRANSFORMER



- C1 - High voltage capacitor
- C2 - Middle voltage capacitor
- I - Spark gap
- P - Serial reactor
- T - Intermediate transformer
- F - Damping unit
- A - High voltage terminal
- N - Low voltage terminal
- 1a-1n - Secondary terminal
- 2a-2n - Secondary terminal
- HF - Terminal for high frequency devices

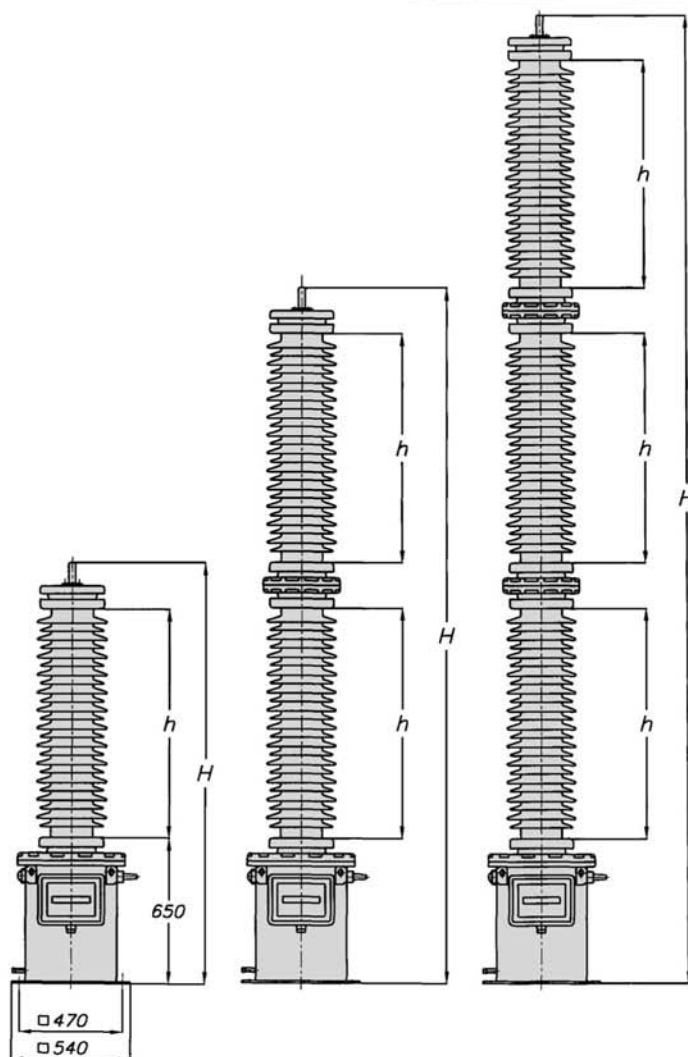


TABLE I

Type	h (mm)	H (mm)	m (mm)	capacitance (pF)
VCU-72.5	990	1920	330	14000
VCU-123	990	1940	330	8800
VCU-145	1340	2260	360	7300
VCU-170	1577	2500	380	6300
VCU-245	990	3200	460	4400
VCU-300	1280	3770	550	3500
VCU-362	1577	4360	590	3000
VCU-420	1707	4590	655	4400
VCU-525	1342	5500	810	3500
VCU-765	1707	6580	1090	3000

Note: Data given in this prospect are for informative purposes only. With the view of constant improvement of quality of our product we reserve the right to changes.



Secondary terminal box