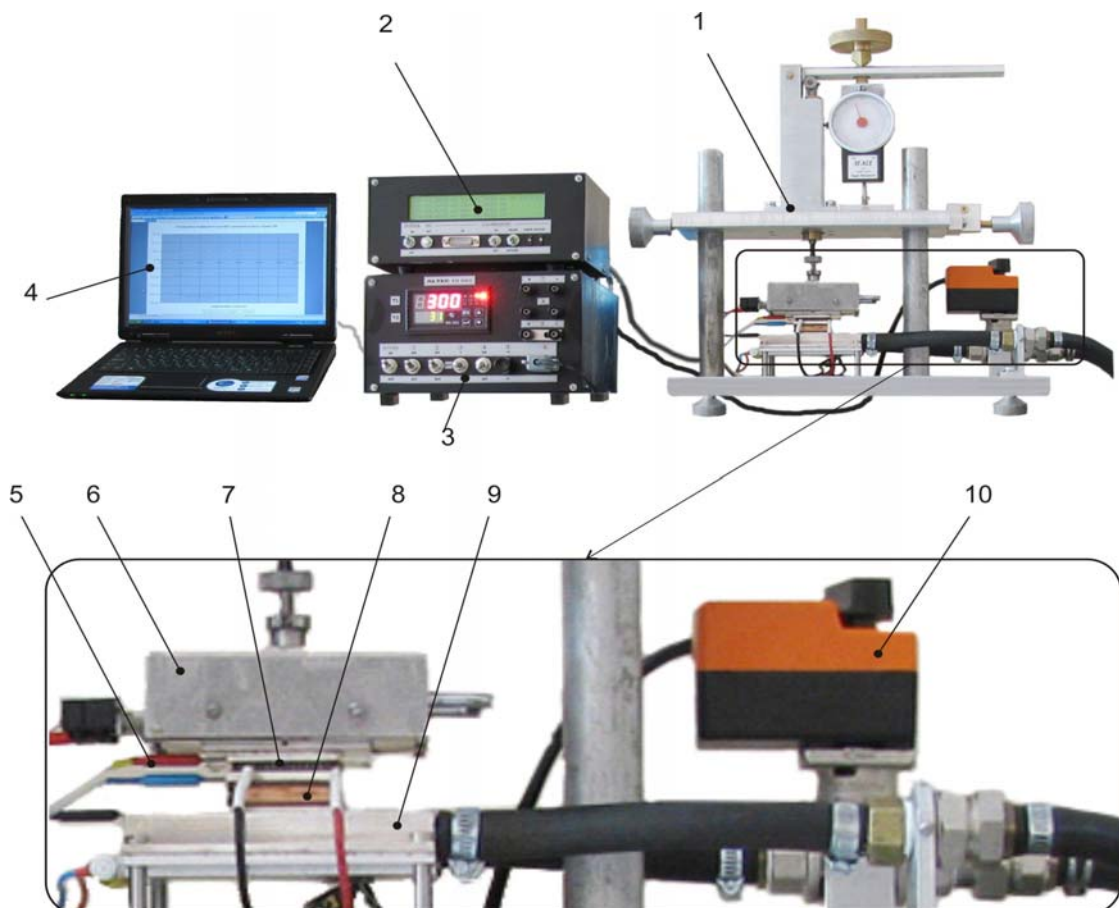




- The installation is intended for determination of the electrical and thermal parameters of thermoelectric modules working in generator mode.
- The operating principle of the installation lies in direct measurement of thermoEMF or voltage on given load of module located between heat exchangers creating controlled steady-state thermal flow, as well as measurement of current in module load circuit, thermal flow passing through the module and determination of power and efficiency of thermoelectric module on the specific load.
- Structurally, the installation comprises: measuring platform accommodating thermoelectric module being measured, heat-exchangers and heat flow meter, electronic measuring and thermal control units, computer. Heat removal from cooling heat-exchanger is by running water.

### Installation appearance



- 1 – measuring platform; 2 – measuring unit; 3 – temperature control unit;  
4 – computer for automatic processing of measurement results;  
5 – measuring thermocouples; 6 – hot heat-exchanger; 7 – measured thermoelectric module; 8 – heat flow meter; 9 – cold heat exchanger with electric heating; 10 – electrically controlled running water cock.

### Technical specifications and parameters of the installation

№	Name of characteristic, parameter, unit measure	Values
1	The range of operating temperatures on the module, °C: - for the hot heat-exchanger - for the cold heat-exchanger	50 – 600 20 – 600
2	The range of dimensions of the working surfaces of modules, mm (changeable accessories of heat exchangers are supplied for the necessary dimensions of modules from the above range)	10x10 – 120x120
3	Time of one module measurement on given temperature difference, min	10 - 30
4	Maximum module current, up to, A	30
5	Maximum module hold-down pressure, up to, kgf	180
6	Electric parameters measurement error, not more, %	1.5
7	Thermal parameters measurement error, not more, %	3
8	Total electric power requirement, not more, kW	1,3
9	Water flow rate on cooling heat-exchanger from water mains, not more, l/min. (for measuring modules with low heat losses the installation can be complete with supplementary water-air cooler with closed water loop)	12
10	Overall dimensions of the installation (without computer), mm - measuring platform - temperature control unit - measuring unit - water-air cooler	400x300x500 230x160x350 230x100x160 650x300x200
11	Weight (without computer), not more, kg	55

**Orders and additional information at the address:** General P.O.Box 86, Chernivtsi, 58002, Ukraine; e-mail: [ite@inst.cv.ua](mailto:ite@inst.cv.ua); fax: (380-3722)-41917; phone: (380-3722)-41917; <http://ite.inst.cv.ua>.