

**NEW!**



## **MACHINE TOOL FOR CUTTING SEMICONDUCTOR MATERIALS**

**ALTEC - 13005M**



- High-performance 4-position wire machine tool is designed for cutting thermoelectric materials into legs.
- Cutting is made by wires covered with diamonds. It is the most sparing cutting method with a minimum damaged layer.
- Tungsten wires are arranged on accessory frame which is a cutting instrument of the machine tool. The distance between the wires is given by accessory spacer bars.

### **Machine tool appearance**



- High rate of cutting instrument movement is provided through the use of hydrostatic guides with liquid friction.
- Minimized effect of harmful vibration is due to motion of 4 cutting frames out of phase and operation beyond dangerous frequencies.
- High machine tool productivity is provided by simultaneous cutting of 4 billets on 4 worktables at the rate of  $0,4 \div 0,8$  mm/min.
- Delivery of billets to cutting zone is provided by servomechanisms of worktables, and pressure to cutting wires is provided by hydraulic actuators. Pressure force is set by pressure regulators and controlled by high-precision pressure gauges.

- On each worktable, additional mode providing given cutting depth and automatic removal of billets from cutting zone is introduced. Light indication of cutting termination is provided on the control board.

- 210000 legs of dimensions 1,4×1,4×1,5 mm can be obtained of  $Bi_2Te_3$  based materials within 8 hours.

- Machine tool may be supplied complete with equipment and technology for diamonds deposition on the wires.

#### Technical specifications

1.	Maximum dimensions of billets to be cut	50 × 50 × 25 mm
2.	Number of billets cut simultaneously	4
3.	Rated frequency of cutting frames movement	25 Hz
4.	Cross-section of resulting legs, minimum maximum	0,2×0,2 mm <sup>2</sup> 49×49 mm <sup>2</sup>
5.	Number of wires on the frame, minimum maximum	1 119
6.	Minimum cut width	0.22 mm
7.	Weight, not more	150 kg
8.	Electric power requirement (without recycling water supply station)	0.7 kW
9.	Power supply	380 V ±10%, 50 Hz
10.	Dimensions	1700×1200×500 mm

- **Orders and supplementary information:** General Post Office, Box 86, Chernivtsi, 58002, Ukraine; e-mail: [ite@inst.cv.ua](mailto:ite@inst.cv.ua); fax: (380-3722)-41917; phone: (380-372)-585648, (380-3722)-44422, (380-3722)-41909; <http://ite.inst.cv.ua>.