

T-17 RECIPROCATING TESTING MACHINE WITH PIN-ON-PLATE TRIBOSYSTEM

TECHNICAL CHARACTERISTIC

T-17 Tribotester is intended for evaluation of combinations of sliding materials [e.g. metal-polymer couples] to be used as bearing surfaces of human total joint replacement prostheses. The research is carried out at reciprocating motion. Experiments can be carried out according to ASTM F 732. The tribosystem consists of the stationary test pin and the plate moving at the desired reciprocating frequency and amplitude. The test pin is pressed against the plate at the defined load. The lubricant may be delivered to the contact zone in a circulating lubrication system equipped with a peristaltic pump, heating device and filter [optional equipment].

T-17 Testing Machine is equipped with a control-measuring system which consists of:

- ▶ a set of measuring transducers,
 - ▶ controller,
 - ▶ digital measuring amplifier,
 - ▶ PC and special software for measurements and data acquisition,
 - ▶ peristaltic pump [option],
 - ▶ lubricant heating and filtering system [option].
- During the tests the following quantities are measured:
- ▶ friction force,
 - ▶ total linear wear of test specimens,
 - ▶ ambient temperature,
 - ▶ lubricant temperature [option],
 - ▶ time and number of cycles [sliding distance].

Before the run the desired frequency and amplitude of reciprocating movement are set. The measured values are displayed on the monitor screen and saved on the computer disk. The motor of the tribotester is automatically stopped when the preset sliding distance [number of cycles] is reached. After test completion one can print a report presenting curves of changes in the particular quantities versus time.

TECHNICAL SPECIFICATIONS

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| ▶ type of movement | sliding - reciprocating |
| ▶ contact geometry | conformal |
| ▶ nominal pin diameter | 9 mm |
| ▶ nominal plate dimensions | 36 x 17 mm [rectangular prism] or ø36 mm [disk] |
| ▶ amplitude | 0.5 12.5 mm |
| ▶ frequency | 0.5 9.5 Hz |
| ▶ normal load | up to 245 N |
| ▶ lubricant temperature | 37C [stabilised - option] |
| ▶ tribotester dimensions (W x H x D) | 600 x 430 x 200 mm |
| ▶ tribotester weight | 30 kg |
| ▶ power supply | 230 V / 50 Hz |
| ▶ max. power consumption | 1.6 kVA |



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