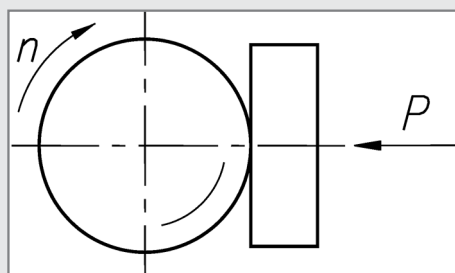


T-20 SLURRY ABRASIVE TESTING MACHINE FOR EVALUATION OF THIN COATINGS AND ENGINEERING MATERIALS



MAIN CHARACTERISTICS

T-20 Testing Machine with ball-on-plate friction contact is intended for the tribological testing of surface coatings and engineering materials. The tested materials can be ranked with regard to friction and wear properties. Linear wear is measured continuously by a displacement transducer, whereas volumetric wear can be calculated after the run on the base of the crater depth measured using a profilometer.



The tribosystem consists of the stationary plate (disk) and the steel ball rotating at the desired speed n . The plate is pressed against the ball at the defined load P . The plate is made of the tested material. In case of testing of a surface coating, it is deposited on the plate. The important feature of the device is the possibility of testing in slurry, eliminating the influence of ambient conditions (humidity, temperature) on the test results. The slurry is stirred in a container and fed to the contact zone. Fixing the ball in the rotating shaft gives additional advantages, like the precise measurement of rotating speed and sliding distance (number of ball rotations).

T-20 Testing Machine is equipped with a control-measuring system that consists of the following:

- A set of measuring transducers,
- Controller,
- Digital measuring amplifier,
- PC and special software for measurements and data acquisition,
- Peristaltic pump (option), and
- Magnetic stirrer (option).

During the tests the following quantities are measured:

- Friction force,
- The total linear wear of test specimens,
- Ambient temperature,
- Rotational speed, and
- Time and the number of ball revolutions (sliding distance).

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 ball revolutions) is reached. After test completion, one can print a report presenting the curves of the changes in the particular quantities versus time.

TECHNICAL SPECIFICATIONS

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| • Type of movement | sliding |
| • Nominal ball diameter | 25.4 mm (1 in.) |
| • Nominal plate (disk) diameter | 5.4 mm (1 in.) |
| • Rotating speed | up to 3000 rpm |
| • Normal load | up to 250 N |
| • Slurry | any abrasive 'suspended' in e.g. distilled water, stirred by a magnetic stirrer and fed to the contact zone by a peristaltic pump |
| • Tribotester dimensions (W x H x D) | 440 x 350 x 510 mm |
| • Tribotester weight | 25 kg |
| • Power supply | 230 V / 50 Hz (optionally 110 V / 60 Hz) |
| • Max. power consumption | 0.3 kW |

