



TIMKEN LOAD BEARING TESTER - TORONTT5A™

Timken Load Bearing Tester – ToronTT5A™ measures the load-bearing capacity of various lubricants—including oils, greases, and solid films—under controlled test conditions. It determines the maximum load a lubricant can handle before the oil film breaks, known as the OK value.

It also assesses the wear resistance of both metal and non-metal materials under sliding friction. This is done by analyzing changes in weight and dimensions of the test samples, the width of wear marks on the test block, and variations in friction during testing.

APPLICATIONS

- **Lubricant & Additive Industry** - Determination of the load-carrying capacity and OK value of lubricants, greases, and solid films to validate anti-wear and extreme pressure performance.
- **Automotive & Transportation** - Evaluation of engine oils, transmission fluids, and gear lubricants to ensure durability, efficiency, and protection of vehicle components under high-stress conditions.
- **Aerospace & Defense** - Verification of specialty lubricants and advanced coatings for aircraft and defense systems operating under extreme load and friction environments.
- **Industrial Machinery & Heavy Equipment** - Assessment of lubricants and wear resistance of machine components to improve reliability, extend service life, and reduce maintenance downtime.
- **Metalworking & Manufacturing** - Testing of oils, greases, and solid films used in machining, forming, and industrial processes to enhance performance and minimize tool wear.

- **Chemical & Petrochemical Industry** - Quality control and validation of lubricants, specialty fluids, and base stocks used in refining, petrochemical plants, and processing industries.
- **Research & Academic Institutions** - Experimental tribology studies, lubricant development, and fundamental research into sliding friction and wear mechanisms.
- **Quality Assurance & Certification Labs** - Standardized testing of lubricants and materials in compliance with ASTM, ISO, and other international standards for certification and regulatory approval.

TECHNICAL SPECIFICATIONS

No.	Product Performance	Technical Parameter
1	Maximum normal force	5000 N
2	Test force lever ratio	10 : 1
3	Friction scale	0.5N/100 grids
4	Spindle speed range	1-1500 rpm (continuously variable)
5	Loading rate	8.92-13.33 N/s
6	Temperature control accuracy	±2°C
7	Standard specimens	Test ring: $\Phi 49.22 \times 13.06\text{mm}$ Test block: $12.32 \times 12.32 \times 19.05\text{mm}$
8	External dimensions	Main unit: length 1140 x width 660 x height 1620 mm, loading box: length 460 x width 460 x height 900 mm
9	Net weight	600 kg



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