INNOVATIVE TECHNOLOGIES

PE-UHMW Abrasion Resistance Tester

ToronAT-UHMW

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PE-UHMW Abrasion Resistance Tester

The ToronAT-UHMW Abrasion Resistance Tester is **engineered to evaluate the wear performance** of ultra-high molecular weight polyethylene **(PE-UHMW)** and high-density polyethylene **(PE-HD).** It is an essential instrument for quality control in production environments, incoming material inspections, and comparative testing in resin-based industries.

Powered by a microcomputer, the system provides accurate real-time display of rotational speed and temperature. A built-in countdown timer on the control panel allows users to set test durations with ease. This intelligent control system delivers highly precise, reliable readings with immediate response, ensuring consistent test results.

The ToronAT-UHMW **complies with ISO 15527** making it a versatile solution for laboratories and manufacturing facilities worldwide.

FEATURES/ADVANTAGES

Consistent Rotation Across All Six Stations

PE-UHMW Abrasion Resistance Tester - ToronAT-UHMW is equipped with six stations, allowing simultaneous testing on six specimens. Each station is driven by a synchronous belt connected to a single spindle motor, ensuring uniform rotation speed across all stations. This setup enhances result consistency and comparability.

Immersed Abrasion Test Cup Design

The test cup lid fits securely into a circular groove to prevent slurry spillage during specimen rotation. Three upper springs press the lid into place, providing a tight, secure seal.

Automated Testing with Real-Time Monitoring

The digital control panel allows users to set the test duration (default is a 3-hour countdown). The timer activates automatically when the test begins, and real-time data on slurry temperature and specimen rotation is displayed, streamlining operation and reducing manual effort.

Automatic Lifting System for High Efficiency and Safety

The lifting mechanism uses a single capacitor motor and chain structure to raise and lower the rotating specimen system. It can stop at any point within the travel range, making it easy to observe and access specimens. Dual-limit protection is built in—if the primary limit fails, the secondary limit immediately cuts power for added safety.

Rotating Specimen Disk with External Stirring System

Components such as the handle, stirring shaft, test cup lid, test cup, and water tank are made from stainless steel, offering enhanced corrosion resistance and easier maintenance.

Independent Cooling System

All six test cups sit in a ring-shaped water tank. Slurry temperature is controlled by water cooled through copper tubing connected to an independent refrigeration unit. This setup ensures all cups maintain a consistent temperature with less than 1°C variance.

TECHNICAL SPECIFICATIONS

MODEL	TORONAT-UHMW
Number of Instrument Test Stations	6
Rate of Rotation	800–1400 r/min
Rotation Control Precision	±1% (≥1000 r/min); ±10 r/min (<1000 r/min)
Rate of Rotation Display Resolution	1 r/min
Timing Accuracy	1 second
Timing Deviation	0.1%
Temperature Display Resolution	0.1 °C
Temperature Control Accuracy	±0.5 °C
Tank Volume	35 liters
Mortar Ratio In Each Test Cup	450g sand, 300g water
Refrigeration Power	5.1 KW
Refrigeration Medium	Water
Voltage	220V AC, 2Kva (110V also available upon request)
Demensions (L x W x H)	1.2 × 0.5 × 1.2 m
Weight	220 kg (485 lbs)

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