



TORONTECH

AUTOMATED COLD CRANKING SIMULATOR TT-CCS-II



Automated Cold Cranking Simulator TT-CCS-II is designed for precise measurement of the apparent viscosity of engine oils at extremely low temperatures (-35°C to -5°C). Utilizing a high-performance rotor-stator system, the instrument ensures accurate viscosity readings by correlating rotation speed to viscosity levels. Its advanced thermoelectric refrigeration system offers enhanced temperature control, reducing preheating time and increasing measurement accuracy.

Compact and user-friendly, the TT-CCS-II is an ideal solution for viscosity testing in the automotive and industrial sectors.

APPLICATIONS

The Torontech TT-CCS-II is an advanced instrument for determining the low-temperature cranking viscosity of engine oils. This test is the definitive measure of an oil's ability to flow during a cold start, a fundamental performance requirement that dictates engine startability and protection in cold climates. By providing the essential data for classifying oils according to SAE J300 specifications, it serves as a cornerstone for both quality assurance and product development.

This critical performance analysis is indispensable for ensuring reliability in:

- **Lubricant Manufacturing & Blending:** As a primary quality control test for every batch of multi-grade engine oil, ensuring products meet stringent SAE and OEM specifications for cold-start performance before market release.
- **Automotive R&D & OEMs:** For validating new oil formulations, especially modern, low-viscosity oils for fuel efficiency, and for establishing the low-temperature performance requirements that guarantee reliable engine startability across all specified operating climates.
- **Petroleum Additive Development:** As a fundamental tool for the research and development of new viscosity index improvers and pour point depressants, providing the precise data needed to prove their effectiveness in improving the low-temperature fluidity of base oils.
- **Commercial & Third-Party Testing:** For providing independent verification and certification of engine oil quality, ensuring that products sold in the market meet their claimed performance levels for the protection of consumers and commercial fleets.

FEATURES

Accurate and Reliable Operation

The TT-CCS-II features an motor drive with high precision and automatic detection of rotation speed, ensuring reliable control of current and reduced human error. Its rotary encoder and improved rotor offer low torque test status and high repeatability, guaranteeing consistent and accurate results

Advanced Temperature Control

This model incorporates a semiconductor refrigeration system capable of testing a wide temperature range. With a cryogenic refrigeration setup, it maintains precise control down to 0.02°C and automatically recommends and adjusts optimal temperatures throughout testing.

Patented Innovations

The TT-CCS-II incorporates patented technologies, including an advanced lubricating oil apparent viscosity testing structure and automatic cleaning features, ensuring superior performance and compliance with industry standards

Comprehensive Data Handling:

The TT-CCS-II automates every aspect of the testing process, from calibration curve generation to direct viscosity display. Test procedures are fully automatic, including injection, cleaning, and shutdown. Data is stored automatically, and results can be printed directly through the connected system.

Versatile and High-Performance Design

With a viscosity measurement range of 1500 to 25000 cP, the instrument supports editing and storing up to 20 standard oil results. Equipped with a complete Windows-compatible computer control system, the device integrates seamlessly into testing workflows.

TECHNICAL SPECIFICATIONS

NO.	SPECIFICATION	DETAILS
1	Reference standard	ASTM D2602, ASTM D5293
2	Refrigeration method	Semi-conductor
3	Circulation method	Multifunctional plastic steel pump
4	Temp. controlling method	Digital PID temperature controller

NO.	SPECIFICATION	DETAILS
5	Detection method	Automatic injection, cleaning, and testing
6	Data processing	Automatic storage
7	Temp. controlling range	-5°C, -10°C, -15°C, -20°C, -25°C, -30°C, -35°C
8	Voltage	AC220 V 50Hz (110V also available upon request)
9	Power consumption	1000W
10	Dimension	780×560×950 mm ³
11	Weight	40 Kg (88 lbs)



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