

The automated CCS-2100 is a cold-cranking simulator for measuring apparent viscosity of engine oils from $-35\text{ }^{\circ}\text{C}$ to $-5\text{ }^{\circ}\text{C}$. Automated sample loading, operation and solvent-free cleaning permit unattended processing of up to 30 samples at one time.

Common Applications

- Engine oils
- Lubricating oils
- Base stocks

CCS-2100 Automated Cold-Cranking Simulator

For Apparent Viscosity of Engine Oils from $-35\text{ }^{\circ}\text{C}$ to $-5\text{ }^{\circ}\text{C}$
ASTM D5293, SAE J300

Product Features & Benefits

Meets all ASTM D5293 and SAE J300 requirements and precision specifications

- Temperature range: $-35\text{ }^{\circ}\text{C}$ to $-5\text{ }^{\circ}\text{C}$ ($\pm 0.05\text{ }^{\circ}\text{C}$)
- Viscosity range: 900 mPa-s (cP) to 25,000 mPa-s (cP)

Fully automated operation

- Automated sample loading and computer controlled testing of up to 30 samples at one time
- Unattended operation reduces operator-to-operator variability for enhanced repeatability and reproducibility
- Proprietary software automatically calculates and records sample viscosities based on test data and stored rotor/stator calibration information
- The system automatically purges the previously measured sample with a portion of the next sample prior to viscosity measurement

Outstanding measurement control

- Features a patented, thermoelectrically-cooled rotor/stator for outstanding temperature management
- Rotor speed is automatically measured by a high resolution digital encoder

Reliable, convenient performance

- Proven CANNON® reliability and outstanding support
- A thermoelectric sample warming cycle greatly improves sample flushing allowing solvent-free cleaning
- User interface options include an instrument calibration routine, configuration of test cycles, and multiple data output options including save, print, and export for LIMS capture



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CCS-2100 Automated Cold-Cranking Simulator

Ordering Information

CCS-2100 Automated Cold-Cranking Simulator consists of a patented thermoelectrically-cooled rotor/stator with vacuum system and injection pump, a 30 position sample table, a temperature verification kit, an integrated controller, a waste receiver, a recirculating cooler, proprietary software and a set of Cannon CL viscosity standards. Computer sold separately.

Description	Part #
115 VAC, 60 Hz	9728-E46
230 VAC, 50 Hz	9728-E47
230 VAC, 60 Hz	9728-E49

Accessories & Consumables

Description	Part #
Cannon CL viscosity standards: for instrument calibration and certified dynamic viscosity data (in cP or mPa·s) from -5°C to -40°C	Various
2 oz bottles, 48 count	75.3110.1
Spare parts kit (for one year)	75.8165
Dry gas purge (post 2014 models)	75.8175



Product Specifications

Dimensions (W x D x H)	Unit: 33.3 cm x 64.4 cm x 71.1 cm (13.1 in x 25.4 in x 28 in) Waste receiver: 26.7 cm x 34.3 cm x 38.9 cm (10.5 in x 13.5 in x 15.3 in) Recirculating cooler: 24.9 cm x 50.0 cm x 59.9 cm (9.8 in x 19.7 in x 23.6 in)
Weight	Unit: 46 kg (102 lb) Waste receiver: 8.2 kg (18 lb) Recirculating cooler: 39.1 kg (86 lb)
Shipping dimensions (W x D x H)	Box 1: 88.9 cm x 88.9 cm x 88.9 cm (35 in x 35 in x 35 in) Box 2 (recirculating cooler): 81.3 cm x 61.0 cm x 106.7 cm (32 in x 24 in x 42 in)
Shipping weight	Box 1: 140.6 kg (310 lb) Box 2 (recirculating cooler): 59.0 kg (130 lb)
Maximum throughput	Up to 6 samples per hour
Automated sample capacity	30
Viscosity range	900 mPa·s (cP) to 25,000 mPa·s (cP)
Temperature range & accuracy	-35 °C to -5 °C ± 0.5 °C
Minimum sample volume	40 mL
Operating conditions	15 °C to 30 °C, 10% to 75% relative humidity (non-condensing), Installation Category II; Pollution Degree 2
Electrical specifications	115 VAC, 60 Hz; 230 VAC, 50 Hz; 1,000 watts power consumption
Compliance	CE Mark; EMC directive (2004/108/EC); Low voltage directive (2006/95/EC); HI-POT (1900 VDC, 60 sec.); ROHS

CANNON Instrument Company* provides a variety of physical property testing equipment and consumables (vials, bath fluids, and reference materials) for your testing needs. To learn more, contact sales@cannoninstrument.com.



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