High-Temperature High-Shear Viscometer

CANNON® HTHS Series II

CANNON INSTRUMENT COMPANY®

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High-Temperature High-Shear Capillary Viscometer

ASTM D 5481

- Measures 15 to 20 samples per hour
- One-button operation - load sample, set pressure, and press "Start"
- Reduced role for operator enhances repeatability and reproducibility
- Variable temperature and shear rate for research applications

CANNON High-Temperature High-Shear (HTHS) Capillary Viscometer

The CANNON® High-Temperature High-Shear (HTHS) Capillary Viscometer is designed to determine the viscosity of engine oils and other oils under conditions of high shear at high temperatures. The HTHS is capable of testing at 1.4 x $10^6 s^{-1}$ at 150°C and meets all precision specifications of ASTM D 5481. The Series II design incorporates simple one-button operation — just load samples, set pressure, and press the Start button. The reduced operator role enhances repeatability and reproducibility. If desired, variable shear rates (± 30 percent of the shear rate specified in ASTM D 5481) may be obtained by altering the test pressure (variable from 75 to 500 psi). The viscosity range of 2-7 mPa·s can be extended to more than 20 mPa·s with custom configuration. Contact CANNON for more information.

Oil samples are first introduced into the viscometric cells at the top of the HTHS. The oils then flow through small glass capillaries under pressure to achieve the desired shear rate. The five viscometric cells in the instrument may be operated in rapid succession. A digital stop-clock measures flow (efflux) time within 0.01 seconds. Flow times, temperature, and pressure are all displayed digitally. Data can then be analyzed with the computer software and test results displayed and printed.

Components

The HTHS viscometer is supplied with a digital temperature control system (variable from 30°C to 150°C), a digital pressure measuring system, automatic timer, and the High Shear Viscosity Calculator — a stand-alone software package for Windows® to perform HTMS data analysis and output.

High Temperature Standards

Please refer to the table below for information on Oil Standards for High-Temperature High-Shear Viscometer measurements at 150°C and $10^6 s^{-1}$ shear rate.

HTHS Specifications

Size:	521 mm wide x 387 mm deep x 686 mm high (20.5 x 15.25 x 27 in)
Weight:	40.5 kg (89 lb)
Operating Conditions:	10%-90% RH non-condensing. Installation category II; Pollution degree 2
Compliance:	CE Mark: EMC directive (89/336/EEC); Low voltage directive (73/23/EEC); HI-POT (1900 VDC, 60 sec.)
Shipping Weight:	75 kg (165 lbs)
Computer Requirements:	Computer not included. Please contact CANNON for specifications.

HTHS Order Information

Catalog #	*Item Description*
9728-C35	Model HTHS Series II, 115 volts, 50/60 Hz, 500 watts
9728-C40	Model HTHS Series II-F, 230 volts, 50/60 Hz, 500 watts

High Temperature Standards Order Information

Catalog #	*Item Description*
9727-U50	HT39, 2.0 mPa·s (cP) at 150°C
9727-U55	HT75, 2.7 mPa·s (cP) at 150°C
9727-U60	HT150, 3.7 mPa·s (cP) at 150°C
9727-U65	HT240, 5.0 mPa·s (cP) at 150°C
9727-U70	HT390, 7.0 mPa·s (cP) at 150°C
9727-U92	HTNN-1, Non-Newtonian standard, 3.6 mPa·s (cP) at 150°C and 10^6 sec^{-1}
9727-U94	HTNN-2, Non-Newtonian standard, 3.1 mPa·s (cP) at 150°C and 10^6 sec^{-1}

CANNON INSTRUMENT COMPANY

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