

The compact, economical TESC (thermoelectric sample conditioner) system integrates and automates the entire ASTM D2983 conditioning and testing process for low temperature viscosity of gear oils and ATF.

Common Applications

- Gear oils
- Automatic transmission fluids

TESC

Thermoelectric Sample Conditioner System

For Low Temperature Viscosity of Lubricants
Automated ASTM D2983 and ASTM D8210

Product Features & Benefits

Fully integrated and automated thermal conditioning and testing (-40 °C to +90 °C)

- Provides an automated alternative to ASTM D2983 sample conditioning and testing
- Eliminates sample disruption during preheating, room temperature stabilization, cooling and final viscosity testing
- Reduces result variability due to temperature fluctuation
- Provides superior precision
- Allows for unattended operation

Pre-developed test programs for common lubricants (gear oil and ATF)

- Reduces instrument set-up time
- Measures viscosity at multiple speeds automatically

Cost effective, ultra-compact design

- Allows installation of multiple TESC Systems in a relatively small benchtop area for redundancy and greater testing versatility
- Conserves precious bench space
- Dedicated PC is not required for standard instrument operation*

Easy-lift system

- Configured for use with the Brookfield® DV2T viscometer and compatible with most Brookfield® models
- Simplifies positioning of the viscometer head

Solid-state thermoelectric cooling

- Peltier cooling is environmentally friendly and does not require the use of hazardous bath fluids
- Enclosed sample chamber mitigates the effects of laboratory air temperature on the sample

Digital recording, printing and exporting of thermal test history and final viscosity data for convenient import into Microsoft® Excel® or other programs

*A PC is required to reprogram the unit for tests other than gear oil at -40 °C



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Thermoelectric Sample Conditioner (TESC) System

Ordering Information

Thermoelectric Sample Conditioner (TESC) System includes the thermoelectric sample conditioner unit, Brookfield® DV2T viscometer and support, temperature control software, #4B2 spindle, EZ-Lock spindle coupling, pre-loaded test programs on USB memory stick, USB to RS-485 cable, test cells (12 pack), 20 mL plastic syringes (5 each), and CL 160 viscosity reference standard (500 mL). The unit is pre-calibrated for testing gear oil at -40 °C. Specify desired factory installed options when ordering. A computer is not required for normal operation but is required if reprogramming instrument test parameters.

Description	Part #
100 V _{AC} - 240 V _{AC} , 50/60 Hz	9725-F81

Options

Alternative sample/temperature calibration (other than gear oil at -40 °C) may be available for an added charge at the time of ordering.

Accessories & Consumables

Description	Part #
Test cells (case of 72); 25 mm OD x 150 mm, rimless, disposable	9725-F83
Test cells (pkg of 12); 25 mm OD x 150 mm, rimless, disposable	9725-F84
Viscosity reference standard CL 600 (~9,500 cP at -10 °C and -12 °C)	9727-N36.016
Viscosity reference standard CL 340 (~9,500 cP at -20 °C)	9727-N31.016
Viscosity reference standard CL 280 (~9,000 cP at -26 °C)	9727-N26.016
Viscosity reference standard CL 240 (~9,000 cP at -30 °C)	9727-N20.016
Viscosity reference standard CL 160 (~10,000 cP at -40 °C)	9727-N12.016
Viscosity reference standard N27C (~40,000 cP at -40 °C and ~7,000 cP at -26 °C)	9727-G12.016
Viscosity reference standard N115B (~95,000 cP at -26 °C and ~17,000 cP at -12 °C)	9727-G15.016
Viscosity reference standard N14B (17,000 cP at -40 °C)	9727-G65.016
Viscosity reference standard N120B (150,000 cP at -40 °C)	9727-G30.016
Viscosity reference standard N480B (150,000 cP at -26 °C)	9727-G35.016
Viscosity reference standard N1400B (150,000 cP at -12 °C)	9727-G40.016
Brookfield® #4B2 insulated spindle (replacement)	17.5128
Brookfield® EZ-Lock spindle coupling (replacement)	17.5129
Plastic syringe, 20 mL	17.5133

Product Specifications

Dimensions (W x D x H)	16.5 cm x 51 cm x 76 cm (6.5 in x 20 in x 30 in)
Weight	19.5 kg (43 lb) including DV2T viscometer
Shipping dimension (W x D x H)	73.7 cm x 71.1 cm x 58.4 cm (29 in x 28 in x 23 in)
Shipping weight (with all items)	34 kg (75 lb)
Sample capacity	1
Temperature range & accuracy	-40 °C to +90 °C (± 0.1 °C)
Minimum sample volume	~20 mL
Operating conditions	15 °C to 30 °C, 10% to 75% relative humidity (non-condensing), Installation Category II, Pollution Degree 2
Electrical specifications	100 V _{AC} - 240 V _{AC} , 50/60 Hz; 300 watts power consumption
Compliance	CE Mark; EMC directive (2004/108/EC); Low voltage directive (2006/95/EC); ROHS
Data output	USB and RS-485

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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