TESC-2983 (thermoelectric sample conditioner) viscometer is compact, economical, and provides outstanding precision for ASTM D2983 Procedure D conditioning and testing process for low temperature viscosity analysis of gear oils, ATF, and more.

Common Applications

- Gear oils
- Automatic transmission fluids
- Torque and tractor fluids
- Industrial and automotive hydraulic oils
- Industrial lubricants
- Other fluids where low-temperature viscosity is critical

TESC-2983
Thermoelectric Sample Conditioner

For Low Temperature Viscosity of Lubricants
ASTM D2983 Procedure D and ASTM D8210

New and Enhanced Features

- Easy-to-use touch encoder
- Stand-alone unit, no PC required
- Effortlessly switch between saved calibrated temperatures

Superior precision in fully automated thermal conditioning and testing (–40 °C to + 90 °C)

- Provides unsurpassed results for ASTM D2983 Procedure D sample conditioning and testing
- Allows for unattended operation
- Eliminates sample disruption during preheating, room temperature stabilization, cooling, and final viscosity testing
- Reduces result variability due to temperature fluctuation and operator intervention

Cost effective, ultra-compact design

- Low energy consumption, only 300 W power per unit
- Small footprint conserves bench space and allows installation of multiple TESC-2983 units

Eco-friendly Peltier thermoelectric cooling

- Peltier cooling does not require the use of hazardous bath fluids or refrigerants
- Enclosed insulated sample chamber mitigates the effects of laboratory air temperature on the test

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

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

Easy-lift system

- Includes the advanced Brookfield® DV2T rotational viscometer with color touchscreen interface
- Simplifies positioning of the viscometer head

Convenient USB data export

CANNON INSTRUMENT COMPANY
2139 High Tech Road | State College | PA | 16803
800-676-6232 | 814-353-8000 | Fax 814-353-8007
sales@cannoninstrument.com | **cannoninstrument.com**

TESC-2983 | Thermoelectric Sample Conditioner

Ordering Information

TESC-2983 Thermoelectric Sample Conditioner includes the thermoelectric sample conditioner unit, Brookfield® DV2T viscometer and support, temperature control software, #4B2 spindle, pre-loaded test programs on USB memory stick, test cells (pkg of 12), 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. Use of a digital thermometer (sold separately) is suggested for verification and calibration of the cell temperature according to Procedure D in ASTM D2983.

Description	Part #
100 VAC - 240 VAC, 50/60 Hz	9725-F81

Options

Additional sample/temperature calibration is also 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
Plastic syringe, 20 mL	17.5133
TESC Digital Thermometer Bundle (includes Dostmann P795 Dual Channel Digital Thermometer, TESC probe, and spacer)	17.5154

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)
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 VAC - 240 VAC, 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

ASTM D2983 Procedure D Comparison

	ASTM D2983-19 Procedures			
Features & Benefits	**A**	**B**	**C**	**D**
Cooling Technology				
- Mechanical refrigeration with CFC	✓	✓	✓	
- Solid-state Peltier (non-CFC)				✓
- Flammable bath liquid		✓	✓	
Operator Intervention	high		moderate	low
Size/Benchspace	large floor mount		large benchtop	small benchtop
Energy Consumption	high		moderate	low
Precision				
- Repeatability	13.5%			8.4%
- Reproducibility	18.1%			9.7%
Eco-Friendly	no			yes

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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