

TESC-2983 (thermoelectric sample conditioner) viscometer is compact, economical, and provides outstanding precision for ASTM D2983 Procedure D, ASTM 8210, and DIN 51398 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, ASTM D8210, and DIN 51398

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, ASTM 8210, and DIN 51398 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



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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 ASTM 8210, DIN 51398, and 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 Temperature Calibration Kit (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	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

Features & Benefits	ASTM D2983-19 Procedures			
	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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