

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



**CANNON**  
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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 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	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
<b>Cooling Technology</b>				
- Mechanical refrigeration with CFC	✓	✓	✓	
- Solid-state Peltier (non-CFC)				✓
- Flammable bath liquid		✓	✓	
<b>Operator Intervention</b>	high		moderate	low
<b>Size/Benchspace</b>	large floor mount		large benchtop	small benchtop
<b>Energy Consumption</b>	high		moderate	low
<b>Precision</b>				
- Repeatability	13.5%		8.4%	
- Reproducibility	18.1%		9.7%	
<b>Eco-Friendly</b>	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](mailto:sales@cannoninstrument.com).



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