

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 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 |
| 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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