



"Tomorrow's Instruments... Today"™

SCANNING BROOKFIELD TECHNIQUE - *Direct Cool*

Low Temperature Pumpability & Gelation Index

- The new non-liquid, direct cool system for ASTM D 5133, *Gelation Index* – required for ILSAC GF-2-5; API 'SL', 'SM', 'SN' specifications for modern engine oils.
- Direct Cool design eliminates source of flammable bath medium from laboratory environment.
- Dual, independent, test sample design replaces Tannas SB+4 and SB+8 baths.
- Enhanced SBT Automation Package (w/Laptop) for operating up to four, 2-place, Direct Cool units at the same time or separately.
- Self-contained pre-heating: Heats SBT samples to 90°C prior to analysis while remaining in position.
- Internal automatic dry air system to eliminate moisture buildup during test.
- Simple verticle alignment and centering of viscometers.
- Small bench-top footprint.



The developer and sole source of the Scanning Brookfield Technique, Tannas Co. is pleased to announce a new approach to running Scanning Brookfield/Gelation Index tests. Several years of diligent research and development have been successful.

The goal was to design a directly refrigerated bench top instrument that would precisely cool two samples per application of the Scanning Brookfield test according to ASTM D5133 and D7110. The effort was not only successful but the refrigeration techniques used were found to be patentable.

One of the obvious benefits of the SBT Direct Cool is that the instrument removes a source of flammable coolant from the laboratory environment as well as the need to periodically replace this coolant after it has absorbed sufficient water from the air reducing its cooling capacity.

Additionally, the laptop can receive data for up to four Direct Cool units either simultaneously or in any combination resulting in the each unit acting independently eliminating the constraint of batch testing.

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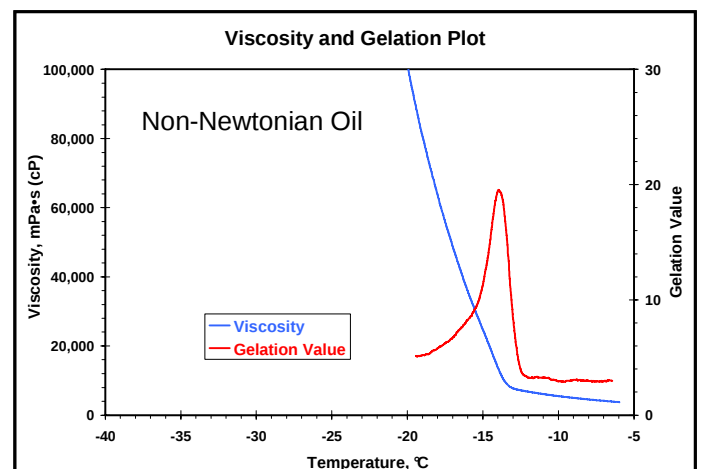
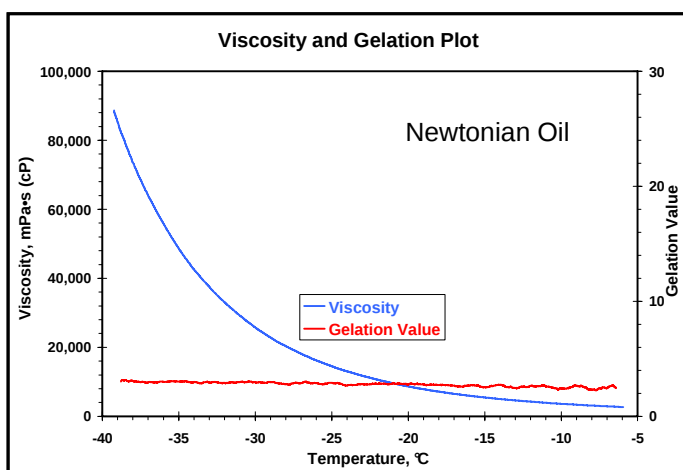
SBT Direct Cool

Dimensions	Bench-top 12.5"(w) x 20"(d) x 29" (31.8 x 51 x 74 cm)
Weight	~80 lbs. (36.3 kg)
Voltage	110 VAC or 220 VAC, 50 or 60 Hz.
Advanced Features	Solid, direct refrigeration without liquids Self-contained Pre-heating capability to 90°C
Cooling Capability	+90°C to -45°C ($\pm 0.1^\circ\text{C}$ stability) Average greater than 60°C/hour cool rate
Testing Capacity	One or two test samples per unit Data-link up to four units with Laptop
Test Methods & Specifications	ASTM D5133, D7110, <i>Gelation Index</i> ILSAC GF-2, GF-3, GF-4, GF-5 API <i>SL, SM, SN</i> China National Standard: SH/T0732, GB-11121 JPI-5S-56-99
Safety	High pressure cutout High temperature limits CE Marked



The Scanning Brookfield Technique has always been known for precise technology as evident in the precision of ASTM D5133. Much time has been spent in testing the precision of the SBT Direct Cool unit under a variety of conditions and it has been found to be even more precise than the liquid bath predecessors manufactured from Tannas.

The precision is shown in the following graphs generated by the application of the instrument to both Newtonian and gelating reference oils.



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