TANNAS CO.
LABORATORY INSTRUMENTS

NEW

# Tannas Noack S2®

## Volatility Test

### ASTM D5800, CEC L-40-93


## Principle

**Evaporation Loss / Volatility:** The evaporation loss/volatility of engine oils is of particular importance to the automotive industry as it closely relates to oil consumption in an engine and can lead to a change in the properties of the engine lubricant.

A measured quantity of sample is placed in an evaporation crucible and heated to 250°C for 1-hour while a constant flow of air, controlled at 20 mm $H_2O$ vacuum, is drawn over its surface to remove the resultant vapors. The loss in mass of the oil is determined by weighing before and after the test and calculating the percent loss.

## History

The original Noack volatility test was introduced to the industry in the 1930's for determining the evaporation loss of lubricating oils. Now known as Procedure A, it operates with a toxic mixture of compounds known as Wood's Metal for sample heating.

## Innovation

In the mid-1990's, Mr. Selby, and his colleagues at the *Savant Group,* eliminated the need for Wood's Metal by devising a noble-metal heater approach. This innovative development was completed in 1997 and Tannas began marketing the first non-Wood's Metal Noack tester. Novel advancements and updates to the original Selby-Noack® led to the new Tannas Noack S2® Volatility Test.

## Features

- Advanced Automated Software Option.
- Compatible with MS Windows® 10
- Used for *Phosphorus Emission Index (PEI)* and *Sulfur Emission Index (SEI)* related to phosphorus and sulfur emissions from the combustion chamber.
- Calibration to lab environment using interchangeable Orifice Caps – 'tunable' to the atmospheric conditions of each lab.
- Only Noack System to collect volatile products for further analysis of phosphorus, sulfur, and other elemental oil vapors.

## ASTM D5800D
## CEC L-40-93

Required for :

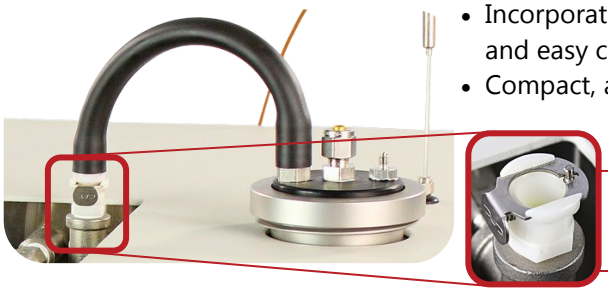
- ILSAC GF-3 to GF-6 & dexos™ Engine Oil Specifications.
- API 'SM', 'SN', 'SP' categories for modern engine oils.

## Special Features

- Sized Orifice Tubes easily calibrate and "tune" instrument to lab environment.
- True operation at 250°C Temperature Setting.
- Redesigned for improved precision and rapid turn-around between tests.
- Collection of volatile products during Noack test for further analysis.

## New Design

- Design enhancements for improved test precision, ease-of-use for high sample workloads and robust day-to-day operation.
- Incorporates metal Reaction Vessel and Quick Connect Fittings for test efficiency and easy cleaning.
- Compact, all-in-one design with small footprint.
- New touchscreen controller with a user-friendly interface.



**Quick Connect Fitting**: Connections snap together easily for rapid and stable test setup.

TANNAS CO.
4800 James Savage Rd.
Midland, MI 48642 USA

TannasKing.com
tannas@savantgroup.com

**Agence Nord:**
ZA Object'Ifs Sud - Lot A3
6 Allée Emilie du Châtelet
14123 Ifs
tél : 02.31.34.50.74
fax : 02.31.34.55.17

**Agence Est:**
Parc Club des Tanneries
2 Rue de la Faisanderie
67380 Lingolsheim
tél : 03.88.04.01.81
fax : 03.68.93.01.52

**Agence Sud:**
Bât Le Venango. 392 Rue Jean Dausset
AGROPARC - BP11575
84916 Avignon Cédex 9
tél : 04.90.27.17.95 fax : 04.90.27.17.52

**www.deltalabo.fr**
**info@deltalabo.fr**

# TANNAS CO.
## LABORATORY INSTRUMENTS

*ISO 9001:2015 QMS*

## Instrument & Parts

**Noack S2® Volatility Test:**

480000: 110 VAC, 50/60 Hz Power
480500: 220 VAC, 50/60 Hz Power

**ASTM D5800, Procedure D:**

480145: SN2 Threaded Cup/Lid Assembly
480114: Flex Outlet Tube Assembly
480130: Inclined Manometer Assembly
480133: Coalescing Filter Housing Assembly
480135: Quick Connect O-ring
480150: Leak Check Tube Assembly - RV
450145: System Leak Check Tube Assembly
500612: Thermocouple Assembly (Type J)
450110: Coalescing Filter Element
450135: O-ring - Coalescing Filter
460029: Vacuum Tubing - Tygon 1/4" ID
450138: Pump Filter Element
450136: O-Ring - Pump Filter
480026: Stir Bar - Cross Shaped
500019: Pipe Cleaners
550031: Gripper Gloves
950014: Exhaust Tubing
950539: Heat Resistant Stopper (High Temp Red)
950536: Cork Stopper
040045: VarClean Cleaner (1.89 L/ Half Gallon)
040035: SNL-75 Reference Oil (1.89 L/ Half Gallon)
040038: SNA-130 Reference Oil (1.89 L/ Half Gallon)
040039: NCO-12 Reference Oil (1.89 L/ Half Gallon)

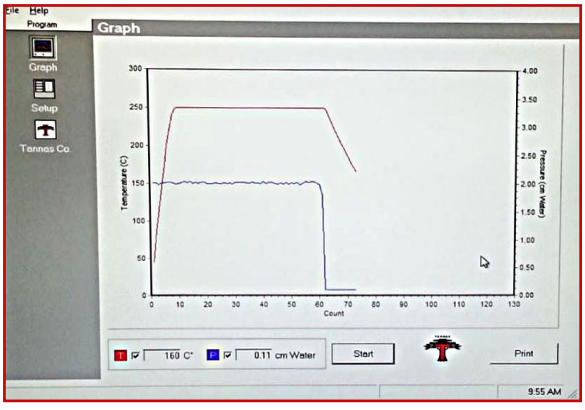
## Instrument Specifications

| | |
|---|---|
| **Dimensions** | Bench-top: 55(w) x 40(d) x 33(h) cm (22 x 16 x 13 inches) |
| **Weight** | ~33.5 kg (74 lbs.) |
| **Voltage** | 120 VAC, 15 amp. max \| 220-240 VAC, 8 amp. max. |
| **Frequency** | 50/60 Hz |
| **Heating Medium** | Resistive Solid Metal Heating (*non-Wood's metal*) |
| **Vacuum Control** | Automated Vacuum Control (± 0.1 cm of $H_2O$)<br>Built-in Vacuum Pump |
| **Operating Parameters** | Temperature: 250° (± 0.1°C)<br>65 gram sample volume<br>20 mm Water Vacuum<br>1 hour test duration *(automatic shut-off w/audible alarm)* |
| **Output** | Digital RS232 to printer<br>*(Analog available upon request)* |
| **Safety** | Over-temperature cutoff Fuse & Indicator<br>Protective Heat Shield<br>CE Marked |
| **Shipping Weight & Dimensions** | ~60 kg (132 lbs.) Approximately<br>~86 x 60 x 83 cm (34 x 24 x 33 inches) Approximately |

## Automated Software

The Tannas Noack S2® Software Package provides real-time display of test temperature and vacuum control during the 1-hour test and temperature based automatic shutdown after test. It allows convenient entry of sample information and offers test result reporting at end-of-test.

The data analysis downloads to a .csv file for easy transfer into LIMS or conversion to an Excel spreadsheet.




## Additional TANNAS CO. Precision Laboratory Instruments

**Tannas Foam *Air* Bath (TFAB®)**
- ASTM D892, D6082, D1881, D7840, IP146
- Non-liquid bath
- 24°C to 150°C range

**TBS 3000 HTHS Viscometer**
- ASTM D4683, D6616, CEC L-36, IP370
- High-Temperature, High-Shear (HTHS)
- 80°C, 100°C, 150°C testing

***Quantum*® Oxidation Tester**
- ASTM D2272, D2112, D4742, D942, IP229
- RPVOT, TFOUT, Grease Oxidation
- Non-liquid 'dry cylinder' sample heating

TANNAS CO.
4800 James Savage Rd.
Midland, MI 48642 USA

TannasKing.com
tannas@savantgroup.com

+1 989 496 2309
+1 989 496 3438