



Available Variants

- Grease Oxidation Stability Tester – Pressure Gauge as per IP 142 / ASTM D942
- Grease Oxidation Stability Tester – Electronic with Software as per IP 142 / ASTM D942

Compliance Standards

ASTM D942, IP 142, IS 1448 (P-94)

Purpose

This test method determines resistance of lubricating greases to oxidation when stored statically in an oxygen atmosphere in a sealed system at an elevated temperature under conditions of test.

Summary of Test Method

The sample of grease is oxidized in a pressure vessel heated to 99°C (210°F) and filled with oxygen at 110 psi (758 kPa). Pressure is observed and recorded at stated intervals. The degree of oxidation after a given period of time is determined by the corresponding decrease in oxygen pressure.

Brief Construction Details

Consists of Oxidation Oil Bath, Oxidation Bombs, Dish Holder, Sample Dishes, Pressure Gauges / Electronic Pressure Transducers, Digital Temperature Controller / Touch Screen HMI & PLC Controller and Thermometer.

1) Oil Heating Bath

1. Double walled Oil Bath/Aluminum Block Heating.
2. Exterior body is fabricated from mild steel material, Powder coated in attractive shades.
3. Inner chamber is fabricated from Stainless Steel Material - S.S. 304 Grade.
4. Heavy insulation is provided between inner chamber and exterior body to prevent the Thermal Loss.
5. Chamber is fitted with efficient heating element and PT-100 Sensor to measure the temperature.
6. Equipped with an efficient stirrer to maintain uniform temperature throughout the chamber.
7. Fitted with a suitable arrangement for holding the Bomb (Pressure Vessel).
8. Temperature control accuracy: $\pm 0.5^{\circ}\text{C}$.

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A-1301, BVR Ek, Opp. Hotel Inder Residency,
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Calibration Laboratory:

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GST TIN No. : 24AABCE4018L1ZU
I.T. PAN No. : AABCE 4018L
IEC No. : 0813026598 Dt. 04/03/2014
CIN No. : U29199GJ2004PTC045078
TAN No. : AHME00572F



9. Temperature display: LCD Display.
10. Temperature range: 5°C above ambient to 150°C.
11. Supplied with over temperature protection safety.
12. Operates on 230 Volt, 50 Hz, Single Phase, AC Supply.

Pressure Gauge Model: Bath temperature is controlled by Microprocessor based PID Digital Temperature Controller Cum Indicator. Pressure indication is on pressure Gauge.

Electronic Model: Bath temperature is controlled by Touch Screen HMI & PLC controller. Pressure indication is on HMI Touch screen controller.

2) Pressure Vessel (Oxidation Bomb) – 02 Nos

1. Oxidation vessel with body, cap, closure ring and stem, constructed from Stainless Steel material.
2. Stainless steel material ensures a proper rate of heat transfer.
3. The interior surface is given a smooth finish to facilitate cleaning.
4. Withstands working pressure of 180 psi (1241 kPa) at 99°C (210°F).
5. Provided with a lead and gasket for sealing.
6. Two numbers of pressure vessels are provided.
7. Volume without the dish holder and dishes is 185 ± 6 mL.

3) Dish Holder – 01 No

1. Made of Stainless Steel S.S. 304.
2. 5 Places (Shelves) in the stand.

4) Sample Dishes – 05 Nos

1. Made of borosilicate glass.
2. Diameter: 41 mm.
3. No. of Dishes supplied: 05 Nos.

5) Thermometer

IP 24C/ASTM 22C thermometer having temperature range from 95 to 103°C graduated in 0.2°C intervals.

Thermometer is supplied at extra cost for the Pressure Gauge Model and 01 No. for the Electronic Model.

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6) Pressure Measurement System

Pressure Gauge Model: 02 Nos high quality pressure gauges. Pressure gauge measures pressure inside Oxidation Bomb with accuracy of better than 0.5 psi (3.45 kPa) in accordance with ASTM specifications. Range: 0-160 psi (0-1100 kPa), graduated in 1 psi intervals. Cleaned for oxygen service. The pressure gauges can be mounted directly on the vessel stem.

Electronic Model: 02 Nos Electronic Pressure Transducers with Power Source, Mounting Arrangement, Data Recorder cum Controller (Touch Screen HMI), Connecting Cables and PC Software. The transducer couplings can be mounted directly on the vessel stem. The output signal from the transducer is recorded and stored in HMI Controller. The software generates analysis report in tabular format and can plot graphs of Pressure Vs Time and Temperature Vs Time.

Technical Specification

Parameter	Specification
Test Temperature	99°C (210°F)
Oxygen Pressure	110 psi (758 kPa)
Oil Bath Temperature Range	5°C above ambient to 150°C
Temperature Control Accuracy	± 0.5°C
Pressure Vessel Quantity	02 Nos
Pressure Vessel Working Pressure	180 psi (1241 kPa) at 99°C (210°F)
Pressure Vessel Volume	185 ± 6 mL
Dish Holder	01 No., S.S. 304, 5 Places
Sample Dishes	05 Nos, Borosilicate Glass
Sample Dish Diameter	41 mm
Thermometer Range	95 to 103°C
Thermometer Graduation	0.2°C
Electrical Supply	230 Volt, 50 Hz, Single Phase, AC Supply

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