



**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, Electronic Pressure Transducer, Touch screen HMI & PLC Controller and Thermometer.

- 1. Oil Heating Bath:**
- Double walled Oil Bath/Aluminum Block Heating
  - Exterior body is fabricated from mild steel material, Powder coated in attractive shades
  - Inner chamber is fabricated from Stainless Steel Material - S.S. - 304 Grade
  - Heavy insulation is provided between inner chamber and exterior body to prevent the Thermal Loss
  - Chamber is fitted with efficient heating element and PT-100 Sensor to measure the temperature
  - Bath temperature is controlled by Touch Screen HMI & PLC controller.
  - Equipped with an efficient stirrer to maintain

- uniform temperature throughout the chamber
- Fitted with a suitable arrangement for holding the Bomb (Pressure Vessel)
- Temperature control accuracy :  $\pm 0.5^\circ\text{C}$
- Temperature display : LCD Display
- Temperature range :  $5^\circ\text{C}$  above ambient to  $150^\circ\text{C}$
- Pressure Indication : On HMI Touch screen controller
- Supplied with over temperature protection safety
- Operates on 230 Volt, 50 Hz, Single Phase, AC Supply

- 2. Pressure Vessel (Oxidation Bomb):**
- Oxidation vessel with body, cap, closure ring and stem, constructed from Stainless Steel material
  - Stainless steel material ensures a proper rate of heat transfer.
  - The interior surface is given a smooth finish to facilitate cleaning.
  - Withstands working pressure of 180 psi (1241 kPa) at  $99^\circ\text{C}$  ( $210^\circ\text{F}$ )
  - Provided with a lead and gasket for sealing.
  - Two numbers of rotating pressure vessels are provided.
  - Volume without the dish holder and dishes is  $185 \pm 6\text{ mL}$

- 3. Dish Holer:**
- Made of Stainless Steel S.S. - 304
  - 5 Places (Shelves) in the stand

- 4. Sample Dishes:**
- Made of borosilicate glass
  - Diameter : 41 mm
  - No of Dishes supplied : 05 Nos

- 5. Thermometer :**  
IP 24C/ASTM 22C thermometer having temperature range from 95 to  $103^\circ\text{C}$  graduated in  $0.2^\circ\text{C}$  intervals

- 6. Electronic Pressure Measurement system with Transducers and Software:**  
Pressure recording mechanism consists of high quality Electronic pressure transducers, 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 & stored in HMI Controller. The software generated analysis report in tabular format. The PC Software can also plots graphs of Pressure Vs Time and Temperature Vs Time.

Note: Specifications are subject to change.