

CONSTANT TEMPERATURE OIL BATH - TORONFT™ OB



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ToronFT™ OT Constant Temperature Oil Bath is a precision thermal conditioning instrument designed for oil resistance testing of enameled wires, insulation coatings, and other plastics and polymer materials. By immersing specimens in a controlled oil bath at the specified elevated temperature and holding them for a defined period, the ToronFT™ OT enables laboratories to evaluate the solvent resistance, thermal stability, and mechanical residual properties of insulation materials following high-temperature oil exposure — a critical qualification step for enameled magnet wire used in motors, transformers, and other electrical equipment.

The constant temperature oil tank features six test cups (each 4 cm in diameter × 23 cm deep), a dumbbell-type test piece and enameled wire specimen configuration, and a temperature range from room temperature to 300°C — providing the thermal reach required for both standard and high-temperature oil resistance qualification programs.

APPLICATIONS

Constant Temperature Oil Bath — ToronFT™ OB Applications

- Enameled wire manufacturers: oil resistance and thermal stability qualification of magnet wire insulation coatings
- Insulation material manufacturers: solvent resistance and coating film quality evaluation under oil immersion conditions
- Plastic and polymer research laboratories: thermal and chemical resistance characterization under oil bath conditions
- Certification and quality assurance laboratories: oil resistance testing per UL, VDE, CSA, and JIS enameled wire standards
- Motor and transformer manufacturers: incoming material qualification of enameled wire oil resistance properties



FEATURES

Constant Temperature Oil Bath — ToronFT™ OB Key Features

- Six independent test cups per tank — 4 cm diameter × 23 cm deep each — enabling concurrent multi-specimen or multi-condition testing
- Specimen types: dumbbell-type test pieces and enameled wire segments — covering the full range of standard oil resistance test configurations
- Compact test tank: 30 cm × 30 cm × 30 cm — efficient bench-top footprint
- Wide temperature range: room temperature to 300°C — covering standard and high-temperature oil resistance test requirements
- Precise temperature control for stable, reproducible oil bath conditions throughout the immersion period
- Compatible with standard enameled wire tensile residual value measurement equipment for post-immersion mechanical property assessment
- Compliant with UL, VDE, CSA, and JIS enameled wire and insulation coating test standard requirements
- Durable construction for sustained high-temperature oil bath operation in production and certification environments

THEORY & METHOD

Theory and Method

The oil resistance test evaluates how the mechanical and physical properties of an enameled wire's insulation coating are affected by immersion in a specified oil at elevated temperature. Specimens — typically dumbbell-type test pieces and enameled wire segments — are placed in the test cups and immersed in the oil bath, which is heated to and maintained at the specified test temperature within the ToronFT™ OB.

After the defined immersion period, specimens are removed and the tensile residual value is measured to quantify the degradation in mechanical strength caused by the oil exposure. The quality of the coating film is assessed by visual inspection and mechanical testing, providing a comprehensive picture of the enameled wire's resistance to the chemical and thermal effects of oil immersion. The six-cup configuration allows multiple specimens or multiple test conditions to be run simultaneously, maximizing laboratory throughput.

TECHNICAL SPECIFICATIONS

Constant Temperature Oil Bath — ToronFT™ OB Technical Specifications

Parameter	Specification
Model	ToronFT™ OB
Test Piece Types	Dumbbell-type test piece, enameled wire
Number of Test Cups	6
Test Cup Dimensions	Diameter 4 cm × Depth 23 cm (each)
Test Tank Dimensions (L×W×H)	30 cm × 30 cm × 30 cm
Temperature Range	Room temperature ~ 300°C



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