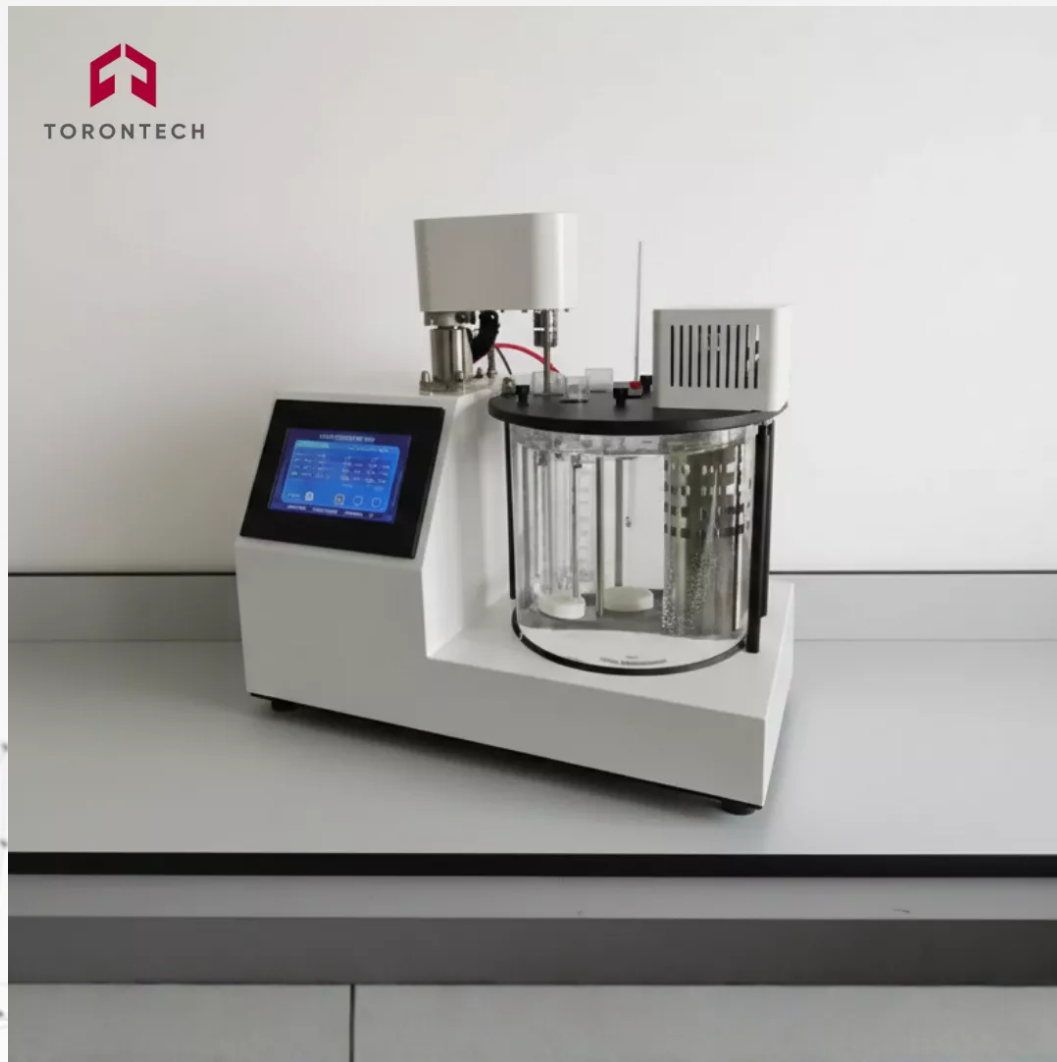




TORONTECH



AUTOMATIC DEMULSIBILITY APPARATUS

Automatic Demulsibility Apparatus TT-1401Z

Automatic Demulsibility Apparatus TT-1401Z conforms to the ASTM D1401 Standard Test Method for Water Separability of Petroleum Oils and Synthetic Fluids.

Automatic Demulsibility Apparatus TT-1401Z serves as a guide for determining the water separation characteristics of oils subjected to water contamination and turbulence. It is utilized for specifying new oils and monitoring in-service oils. Additionally, it assesses the ability of petroleum oils or synthetic fluids to separate from water. While initially developed for steam-turbine oils with viscosities of 28.8–90 mm²/s at 40°C, this test method can also be applied to oils of different types with varying viscosities and synthetic fluids at different test temperatures. It is recommended, however, to raise the test temperature to 82 ± 1°C when testing products more viscous than 90 mm²/s at 40°C.

APPLICATIONS

The primary application of the Automatic Demulsibility Apparatus TT-1401Z is to **automatically determine the water separability (demulsibility) characteristics of petroleum oils and synthetic fluids**, in compliance with the **ASTM D1401** standard. The test evaluates how effectively and quickly a lubricant can separate from water after being emulsified, a critical performance property for oils that may encounter water contamination. The fully automated process enhances test repeatability and improves laboratory workflow, making it ideal for both the quality control of new oils and the routine monitoring of in-service oils.

Key Industries

- **Lubricant Manufacturing:** This is a fundamental quality control and product development tool for lubricant blenders. The automated nature of the instrument is ideal for high-throughput labs to verify the performance of their formulations—especially for steam-turbine, hydraulic, and circulating oils—ensuring they consistently meet industry specifications.

- **Power Generation:** This is a critical end-user industry, particularly for steam turbine applications where water contamination from steam leaks is a constant risk. The demulsibility of the turbine oil is a crucial performance parameter that is monitored to protect bearings and other high-value components from rust and wear.
- **Industrial Manufacturing (Heavy Industry):** Sectors such as steel mills, paper mills, and mining operate large circulating oil and hydraulic systems that are often exposed to water. They rely on lubricants with excellent demulsibility to allow for the easy removal of water, which is essential for protecting gears, bearings, and hydraulic components from failure.

FEATURES

- It utilizes single-chip control and PID self-tuning temperature control technology, ensuring fast heating and high precision control.
- The instrument automatically stirs and times the process, and the test tube mixing motor boom is automatically raised and lowered.
- Features automatic prompt function and alerts when the experiment is complete.
- The mechanical transmission operates noiselessly, and the heating parts are constructed of corrosion-resistant and durable stainless steel.
- The constant temperature bath is a round glass cylinder with uniform temperature distribution inside, providing effective temperature control.
- Offers automatic printing and storage capabilities, capable of storing up to 100 results.

TECHNICAL SPECIFICATIONS

Display	320×240 dot matrix LCD screen
Temperature control range	Room temperature-100°C
Temperature control accuracy	+0.1°C

Water bath temperature	54±1℃ 82±1℃
Timing range	Arbitrary set within 0-99min
Stirring speed	1500r±15r/min(stirring)
Temperature sensor	Platinum resistance (Grade A PT100)
Experiment hole	4
Power supply	AC220V±20%, 50HZ±10%(can be customized) (110V also available)
Maximum power consumption	1000W
Working temperature	Room temperature-45℃
Working humidity	≤85% RH
Dimensions	540×380×600(mm)
Weight	26Kg



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