Order Code : 25268698.1
Mechanical Equivalent of Heat Apparatus

Key features

- Frame: Heavy-duty, corrosion-resistant steel frame with vibration-resistant design
- Dimensions: Compact and bench-top model, easy to fit in most lab spaces
- Operation Mode: Motor-driven mechanism for uniform rotational motion
- Digital Display: Integrated LCD or LED screen to monitor temperature, speed, and energy
- **Temperature Measurement:**
- Resolution: ±0.01°C (high precision)
- Temperature Range: 20°C – 100°C (adjustable)
- Thermocouple Type: Type K or PT100 sensor for accurate readings
- Display: Digital temperature readout with a large backlit screen for easy visibility
- **Mechanical Setup**
- **Rotational System:**
- High-quality, low-friction bearings for smooth rotation of the flywheel
- Flywheel made of stainless steel or durable cast iron
- Adjustable paddle system for customizable energy transfer
- Motorized drive system (brushless DC motor) with speed control
- Calibration: Pre-calibrated mechanism for accurate results or easily recalibrated by the instructor

Energy Measurement

- Calorimeter:
- Stainless steel jacket for efficient heat transfer
- Insulated chamber to reduce heat loss
- Water reservoir with visible level indicator
- Energy Transfer Mechanism:
- Known mass of water in calorimeter
- Paddle or friction mechanism to induce heat by mechanical energy
- Power input: 220V AC with a low power consumption motor (less than 100W)

Digital Monitoring Features

- Real-time Data Display:
- Temperature of the water is displayed on a digital screen
- Measurement of mechanical energy input, including motor speed

Note: Specifications are subject to change, Photos shown above are Indicative, Actual Product can Vary.

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- Display of the mechanical work done (Joules)
- Digital timer to measure the time taken for the system to reach thermal equilibrium
- Manual data recording for post-experiment analysis

Safety Features

- Overload Protection: Automatic shut-off or safety switch in case of overheat or electrical overload
- Insulated Handles and Components: To prevent accidental burns or electric shocks
- Automatic Cutoff: Motor stops when the system reaches the specified temperature

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