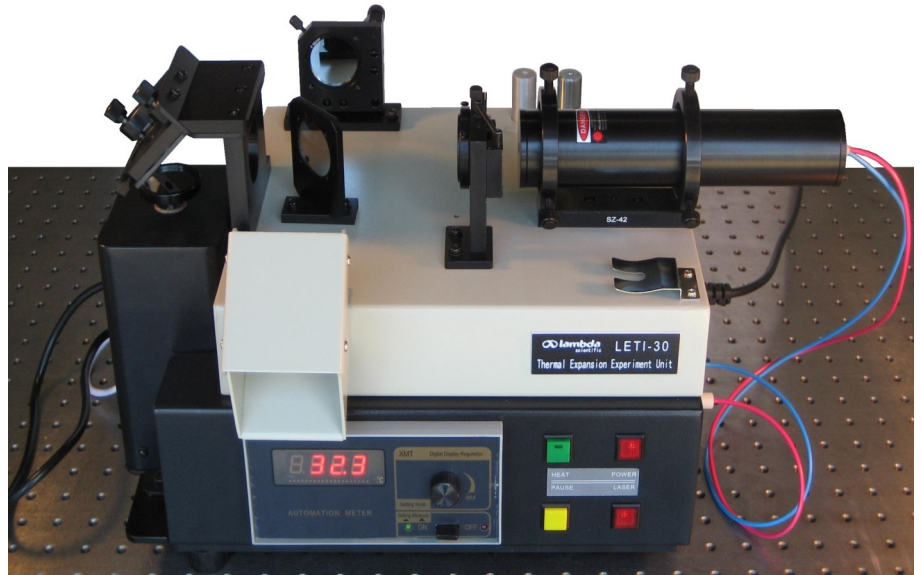


LETI-30 Thermal Expansion Experimental Unit



- *Compact structure*
- *Various types of samples*
- *Low power consumption*
- *High accuracy*

This apparatus employs a Michelson interferometer and an oven, together with a temperature sensor for precise temperature control of the sample under test. Displacement of the specimen due to thermal expansion is measured in terms of the number of interference fringes passed by visual counting. Therefore, the thermal expansion of the material under test can be calculated accurately on the order of a half wavelength of the He-Ne laser.

Experimental Contents

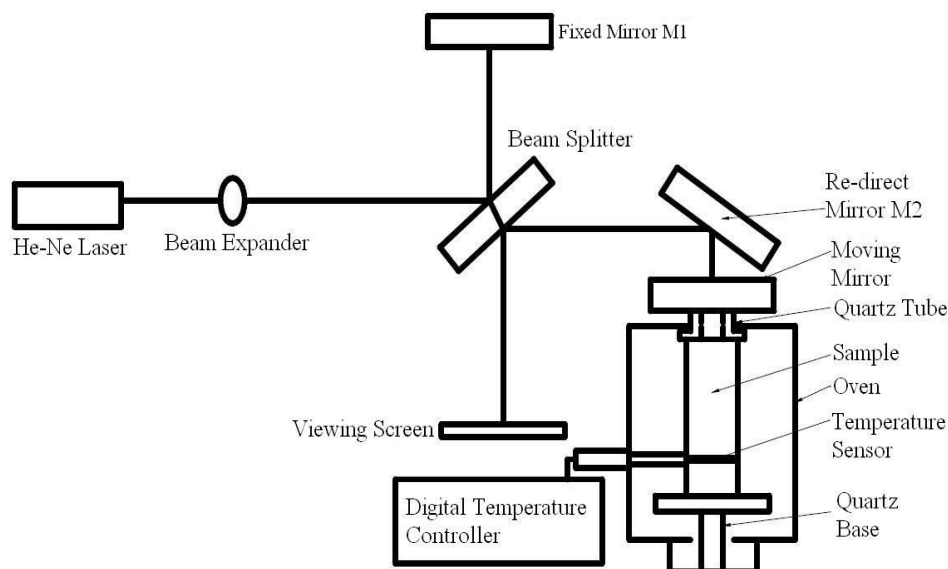
1. Measure linear expansion coefficient of iron, copper, and aluminum bars.
2. Learn how to use a dial indicator.
3. Master temperature control method using a high precision temperature sensor.

Specifications

He-Ne Laser	1.0 mW@632.8 nm
Samples	Copper, aluminum, and steel
Sample Length	150 mm
Heating Range	18 °C ~ 60 °C, with temperature-control function
Temperature Measurement Accuracy	0.1 °C
Display Value Error	± 1%
Power Consumption	50 W
Error of Linear Expansion Coefficient	< 3%

Part List

Thermal Expansion Experiment Unit	1
He-Ne Laser (LLL-2)	1
Plane Mirror	2
Power Cable	1
Lift Tool	1
Hand Tally Counter	1
Aluminum Alloy Sample	1
Copper Alloy Sample	1
Steel Sample	1



Schematic of apparatus