Construct, Conduct & Comprehend Physics Experiments

LEAI-42 Apparatus of Millikan's Experiment - Advanced Model

- *CCD acquisition with microscope and monitor display*
- *Electronic graduation scales on screen*
- *Voltage, time and oil image displayed on one screen*
- *Output signal compatible with TV, projector, and recorder...*
- *Optional Brownian motion experiment with 120× objective*

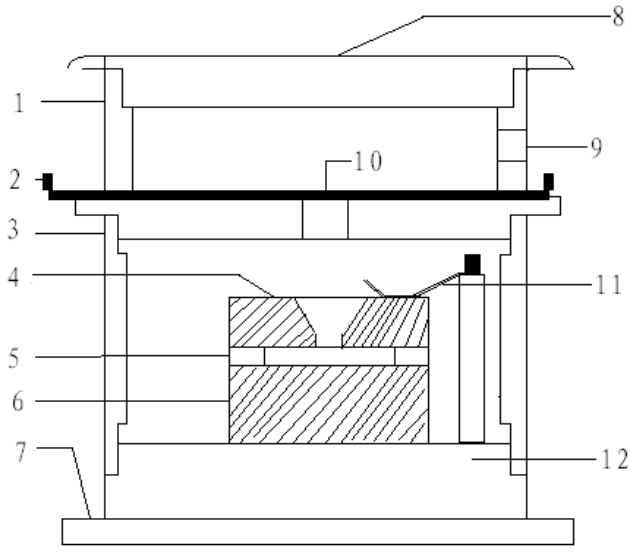
This LEAI-42 apparatus of Millikan's oil drop experiment is the advanced version of the series with CCD image acquisition and monitor display, it is designed to verify the quantum nature of electrical charges, measure the elementary charge of an electron, experiment on the Brownian motion, and verify normal distribution of displacement probability. It is an ideal physics teaching apparatus at colleges and universities.

Using this unit, the following experiments can be conducted:

1. Verify the existence of positive & negative electrical charges
2. Verify the quantum nature of electrical charges
3. Measure the elementary charge of an electron
4. Observe and measure Brownian motion (optional)
5. Verify normal distribution of displacement probability (optional)

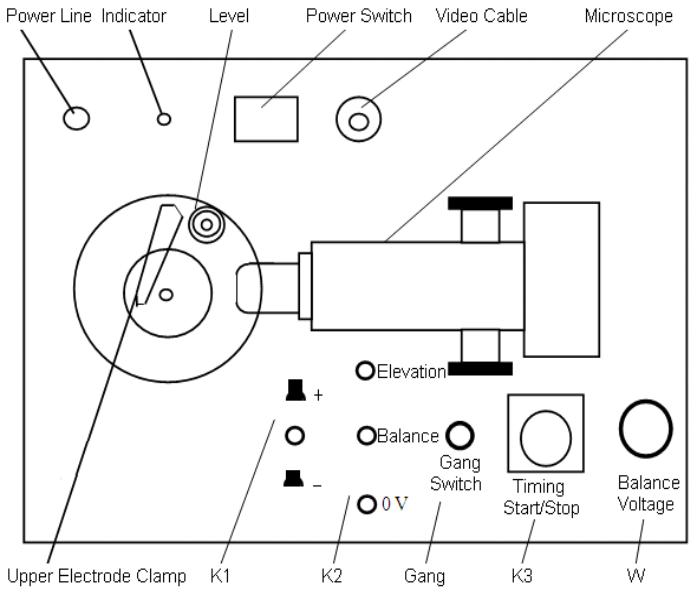
Specifications

Voltage between upper & lower plates	DC ± 0 ~ 700 V, adjustable, 3-1/2 digit, resolution 1 V
Elevation voltage	200 ~ 300 V
Distance between upper and lower plates	5 ± 0.01 mm
Magnification of TV microscopes	60× and 120×
Electric timer	0 ~ 99.99 s, resolution 0.01 s
Electronic graduation of scale	Type A: 8×3 grid, 0.25 mm/div with 60× objective
	Type B: 15×15 grid, 0.08 mm/div with 60× objective & 0.04 mm/div with 120× objective



1-oil mist cup
2-oil aperture switch
3-windscreen
4-upper electrode
5-oil drop channel
6-lower electrode
7-base stand
8-cover
9-oil spray aperture
10-oil mist aperture
11-electrode clamp
12-oil channel base

Schematic diagram of oil drop chamber



Schematic of upper panel

Part List

Main Unit	1
Oil Sprayer	1
Dropper	1
Oil Bottle	1
LCD Monitor with 12V AC Adapter	1

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Note: above product information is subject to change without notice.