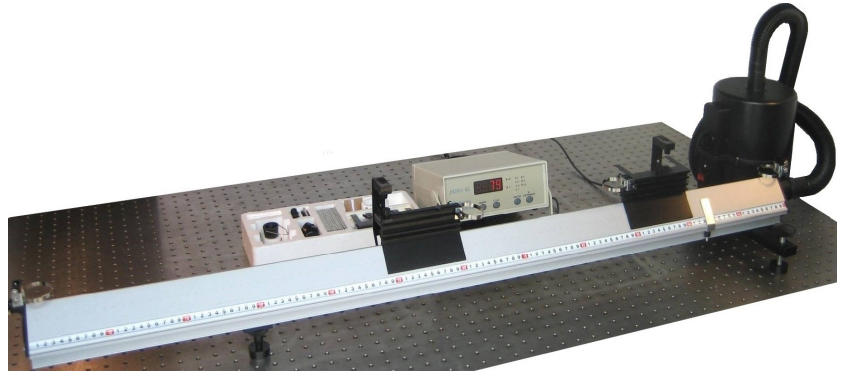


LEMI-45 Complete Air Track Apparatus



- *High performance track & accessories, reliable & durable*
- *Include air track & accessories, timer, & air supply*
- *Easy to use & clean*
- *Affordable*

This air track experiment apparatus is designed based on the Air Cushion principles. When an air track is connected with an air blower, compressed air is sprayed from the holes on the surface and form a thin air layer. This air layer will fill the space between the air track and the inner surface of a glider. As a result, the movement of the glider can be regarded as friction-free movement. With the help of an air blower and a digital timer, the air track can be used to experimentally study important physics concepts such as velocity, acceleration, momentum, collision, and kinetic. It is an ideal experiment instrument for physics teaching. Using this unit, the following experiments can be conducted:

1. Determine velocity of an object in uniform rectilinear motion, and verify Newton's First Law
2. Determine average velocity & instantaneous velocity of an object in variable rectilinear motion
3. Determine acceleration of an object in uniform acceleration rectilinear motion
4. Study relationship between distance & time of an object in uniform acceleration rectilinear motion
5. Determine gravitational acceleration
6. Verify Newton's Second Law
7. Verify Newton's Third Law
8. Verify kinetic energy theorem
9. Verify momentum theorem
10. Verify momentum conservation law
11. Verify mechanical energy conservation law
12. Study simple harmonic vibration
13. Measure the stiffness coefficient of a spring
14. Measure the period of simple harmonic vibration
15. Verify the amplitude of an object in simple harmonic vibration is irrelevant with the period
16. Demonstrate elastic collisions of objects on air track

Specifications

Surface length	1.5 m	
Straightness of track	<0.10 mm (overall); <± 0.05 mm (for 400 mm length)	
Angle of working planes	90° ± 0.1°	
Surface roughness of working planes	Ra 3.2	
Distance between supporting feet	600 mm	
Diameter of air spray out holes	0.8 mm	
Outer diameter of air entering holes	30 mm	
Length/mass of glider (mm/g)	121/155	
Floating height of glider	> 0.10 mm	
Digital timer & counter	4 digits, timer range: 0 ~ 999.9 s, counting range: 0 ~ 9999	
Air blower	Power (W)	200
	Max duration (min)	120
	Pressure (kPa)	> 4.5
	Noise (dB)	< 60
	Dimensions (mm)	Φ150×270
	Outlet	1

List of Accessories

1	Accessories kit		1
2	Weights bucket	5 g	1
3	Spring bumper	φ40 mm	6
4	Velcro joiner		1 pair
5	Glider hook		2
6	Photogate support		2
7	Adjustable starting positioner		1
8	Pulley		2
9	Glider mass	50 g	12
10	Harmonic spring	φ0.5 mm, 195 loops	2
11	Glider flag U-shape	10 mm	2
12	Glider flag U-shape	30 mm	2
13	Glider flag U-shape	50 mm	2
14	Glider flag U-shape	100 mm	2
15	Sole		3
16	Rise-block	height=5 mm	1
17	Rise-block	height=10 mm	2
18	Glider flag strip	5 mm	2
19	Hexagon head screw	M4 x 20	4
20	String with hook		1