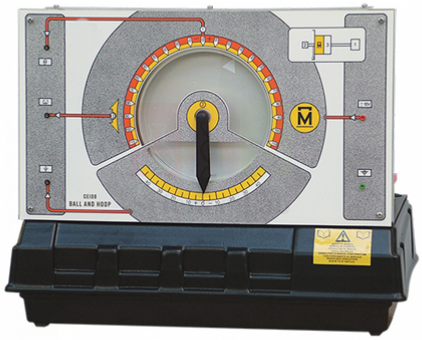
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Product Name :

Ball and Hoop Apparatus

Product Code :

SLE/ETC/06



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Description :

Ball and Hoop Apparatus (Product Code: SLE/ETC/06) is an electromechanical servo trainer used to demonstrate position and velocity control, and to model liquid-slop dynamics, in control engineering laboratories. A steel ball rolls inside a hoop that is free to rotate under servomotor control, while transducers output both the hoop position and the ball position. The trainer is manufactured by **Jain Scientific Equipments Pvt Ltd (ScienceLab)**, an OEM manufacturer of engineering lab equipment in India, at its own factory in Ambala.

Key Details

Parameter	Detail
Moving parts	Steel ball that rolls inside a hoop
Actuator	Servomotor controlling the hoop, which is otherwise free to rotate
Transducers	Outputs for hoop position and ball position
Ball behaviour	With the hoop under angular position control, the ball moves likea cylindrical pendulum
Modelling use	Study of liquid slop dynamics
Application examples	Aircraft missile fuel storage, fuel tankers and industrial pumping systems
Product code	SLE/ETC/06
Manufacturer	Jain Scientific Equipments Pvt Ltd (ScienceLab) — OEM
Country of origin	India (made in Ambala, Haryana)

What Is the Ball and Hoop Apparatus Used For?

At its simplest, students close a servo loop on hoop position or speed and study the response. The richer exercises come from the ball: once the hoop is under angular position control, the ball swings like a cylindrical pendulum, adding an oscillating motion that the controller has to take into account.

That pendulum-like motion is a laboratory model of liquid slopping about in a moving container — the same issue designers face with aircraft and missile fuel storage, fuel tankers and industrial pumping systems. Students can try to move the hoop briskly while keeping the ball's swing small, a practical introduction to oscillation control for mechatronics and control courses that rely on engineering educational equipment.

OEM Manufacturer

Jain Scientific Equipments Private Limited, trading as ScienceLab, is the OEM that makes the Ball and Hoop Apparatus at its own licensed factory in Saha, Ambala, Haryana, India. Institutions and distributors buy it straight from the factory, and follow-up needs such as spare parts or additi

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