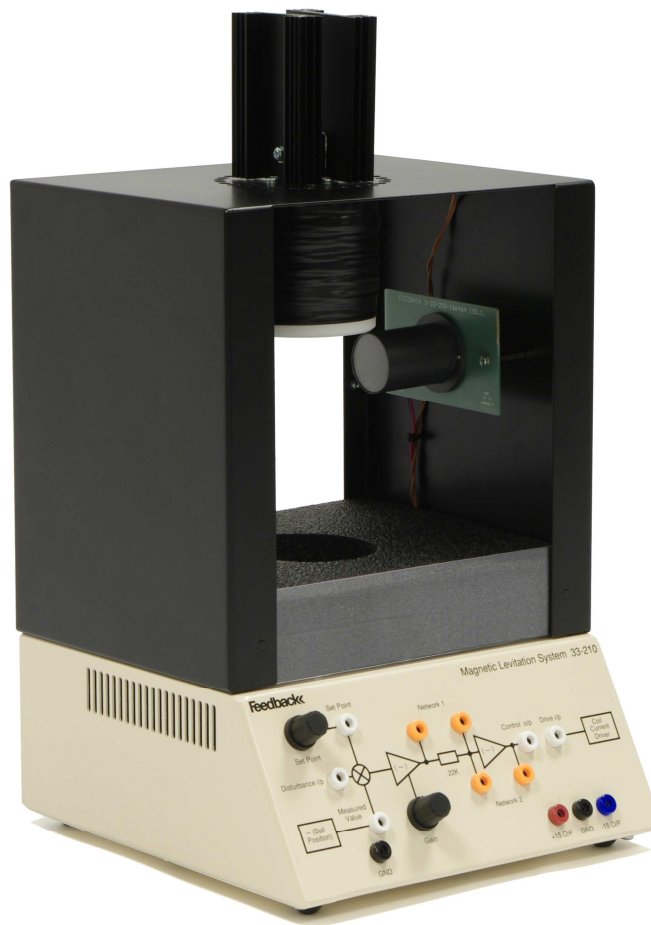


Magnetic Levitation System

33-026



Description

This 33-026 Magnetic Levitation System demonstrates a classic magnetic levitation control experiment, that of suspending a body in space. The suspended body is a 25 mm diameter sphere. This is a visually appealing system with convenient time constants for both Analogue and Digital control solutions. Convenient sockets on the front panel allow for quick changes of gain and compensation components.

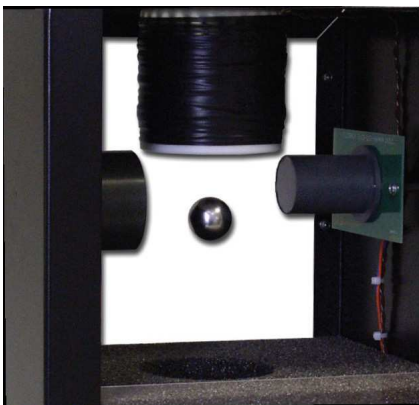
In the Digital mode, the 33-026 operates with NI **LabVIEW™** which allows system parameters to be determined and the system to be modelled. This simulation phase is used to select the digital controller parameters. Once they have been determined, the designed controller can be used to run the hardware and the actual control performance can be seen and analysed.

The system operates under Windows® and provides a graphical interface. It is suitable for directed experimentation for conventional laboratory work, or for design and project oriented studies.

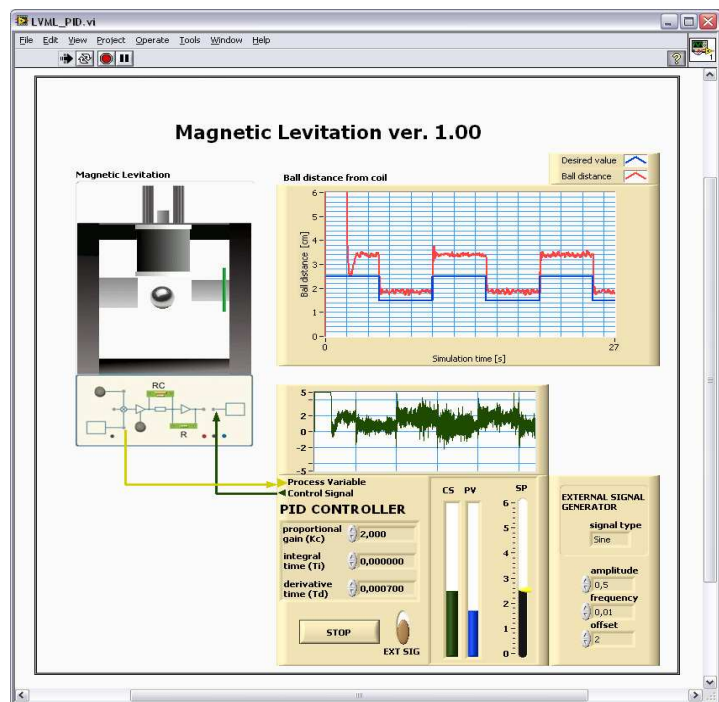
Features

- Well-presented Control Experiment manual with progressive exercises
- Non-linear, unstable process
- Analogue and Digital control
- Optical sensing with 20 mm set-point range
- Closed-loop identification
- Fully assembled plant with integral power supplies
- Lightweight 25 mm suspended body
- Open architecture, design-oriented system

The 33-026 Magnetic Levitation System consists of an enclosed magnet system, sensors and drivers shown overleaf, with a computer interface card, connecting cables, Feedback operating software (33-942) and a set of laboratory manuals.



Fully compatible with NI LabVIEW™



Real-time Maglev Position control

Curriculum Coverage

- Magnetic Levitation set description
- Magnetic Levitation model
 - Non-linear model testing
 - Model linearization
 - Linear model
- Maglev model identification
- Maglev setup control
 - Plant control
 - PID controller



Maglev position control

- PD control of ball position
- Real time PD control of ball position
- Real time PID control of ball position

Advanced Maglev control

- WMV ball position model control
- WMV ball position Real Time control

- **Additional Experiments**

- Stand-alone controller tracking
- External set point

Specification

Dimensions & Weight

Dimensions of the Magnetic enclosure:

Height: 370 mm x **Width:** 250 mm x **Depth:** 260 mm

Weight: 10 kgs

Services Required

Power Supply included

Tender Specification

- [1] A self-contained Magnetic Levitation trainer.
- [2] To be used for teaching the principles of magnetic levitation control.
- [3] Can be used as a stand-alone system or with **LabVIEW™**.
- [4] System to have dimensions approx. 370 mm x 250 mm x 260 mm and weight approx. 10 kgs.
- [5] To be supplied with an experimental manual.
- [6] To be supplied by a company offering a 1 year parts and labour warranty.

Ordering Information

Magnetic Levitation System

33-026



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Tel: +44 1892 653322
Sales: sales@feedback-instruments.com
Website: www.feedback-instruments.com

For further information on Feedback equipment please contact ...

Feedback reserves the right to change these specifications without notice