

Pohl's Pendulum-Forced Oscillations PFO-3023



EPC / PRODUCTS / APPLICATION / SOFTWARE / ACCESSORIES / CONSUMABLES / SERVICES

Analytical Technologies Limited

An ISO 9001 Certified Company

www.analyticalgroup.net

▶▶ Characteristics

- Good system stability and small amplitude attenuation at free oscillation
- Obvious resonant effect and clear physical phenomena
- Rich experiment contents, easy operation and high measurement accuracy
- Affordable

This apparatus consists of a mechanical resonant vibration unit and an electric control unit. A copper circular balance wheel is in-stalled on a rack. One end of the spring is connected to the shaft of the balance wheel and the other end is fixed on the rack post. Under the impact of the spring force, the balance wheel swings freely around its shaft. There is a pair of permanent magnets beneath the rack with the balance wheel located in the magnet gap. Due to electromagnetic induction, when the balance wheel cuts magnetic lines, it is subject to an electromagnetic damping force. The damping magnitude is changed by changing the location of the magnets. To change from a forced vibration to a balance wheel rotation, an eccentric wheel is mounted on the motor shaft through a connect-rod mechanism to drive the balance wheel. A plastic glass wheel with engraved marker line is mounted on the motor shaft and rotates with the motor. The phase difference φ can be read out on the disk. The rotation speed of the motor can be precisely adjusted by the control box.

When forced vibration occurs, the phase difference between the balance wheel and the external force is measured using a flash lamp. When the black marker line passing the photoelectric gate, a flash is caused.

▶▶ Experimental Contents

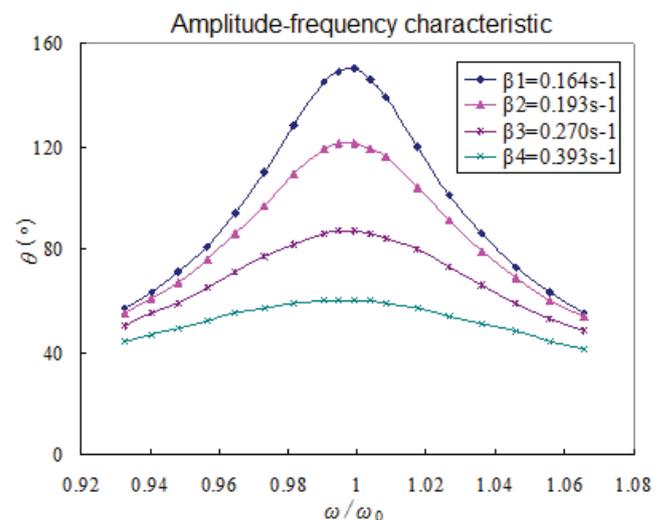
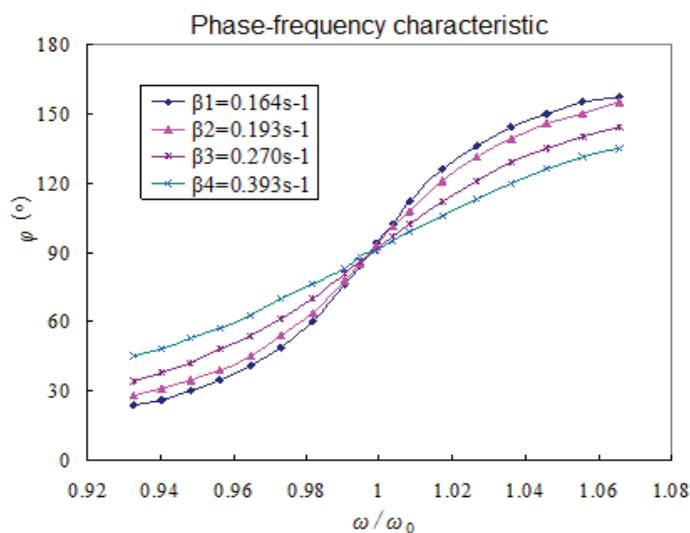
1. Determine amplitude and phase-frequency characteristics of forced vibration.
2. Study influence of damping coefficient on forced vibration.
3. Observe resonant vibration phenomenon.
4. Determine properties of a moving object using frequency-flash method.

►► Specifications

Item	Specifications
Spring stiffness coefficient K	Variation of free vibration period: <1%
Time measurement	Accuracy: 0.001 s; error of period: 0.2%; 4-digit display
System damping	Amplitude attenuation <2% without electromagnetic damping
Amplitude measurement	Error: $\pm 1^\circ$
Motor rotational speed	Range: 15 ~ 50 r/min; period adjustable: 0.2 ~ 4 s
Phase difference measurement	Error < 2° when phase difference between $40 \sim 140^\circ$

►► Part List

Description	Qty
Main unit	1
Electric control unit	1
Wire and cable	3
Manual	1



▶▶ **Regulatory compliances**



▶▶ **Corporate Social Responsibility**

Analytical Foundation is a Nonprofit Organization (NGO) found for the purpose of:



Analytical
Foundation

1. Research & Innovation Scientist's awards / QC Professional Award : Quality life is possible by innovation only and the innovation is possible by research only, hence ANALYTICAL FOUNDATION is committed to identify such personalities for their contributions across various field of Science and Technology and awarding them yearly. To participate for award, send us your details of research / testing / publication at info@analyticalfoundation.org

2. Improving quality of life by offering YOGA Training courses, Work shops / Seminars etc.

3. ANALYTICAL FOUNDATION aims to DETOXYFY human minds, souls and body by means of Yoga, Meditation, Ayurveda, Health Care, Awards, Media, Events, Camps etc.

▶▶ **Reach us @**



HPLC Solutions MultipleLabs Analytical Bio-Med Analytical Distributors Analytical Foundation (Trust)

Corporate & Regd. Office:
Analytical House, # E67 & E68,
Ravi Park, Vasna Road, Baroda,
Gujarat 390 015. INDIA

T: +91 265 2253620
+91 265 2252839
+91 265 2252370
F: +91 265 2254395

E: info@hplctechnologies.com
info@multiplelabs.com
info@analyticalgroup.net
info@analyticalbiomed.com

W: www.ais-india.com
www.analycalgroup.net
www.hplctechnologies.com
www.multiplelabs.com

Sales & Support Offices:
across the country :
Distributors & Channel
partners World Wide

Note : Company reserves rights to add/delete/modify the contents /technical specificationsof the catalogue without prior notice.