

SEDIMENTATION STUDIES APPARATUS – W2MkII

The Armfield Sedimentation Studies Apparatus provides a facility for studying the basic physical processes involved in sedimentation.

LOW-VOLTAGE OPERATION FOR IMPROVED SAFETY
LED ILLUMINATION
PYCNOMETER



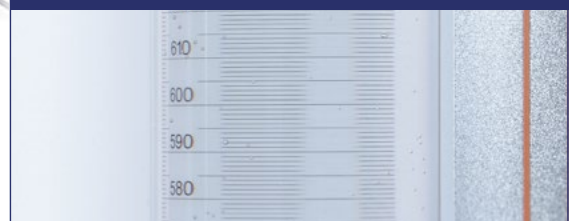
Illuminated background



Cylinders are easily removed



Millimetre scale behind each tube



Description

Sedimentation is a process used widely in the clarification of water and waste water. Particles settle from suspension in different ways, depending on the concentration of the suspension and the characteristics of the particles.

The simplest type of sedimentation is the settling of a dilute suspension of particles that have little or no tendency to flocculate. In these circumstances, the prediction of clarification rates and their scaleup to plant design is relatively straightforward.

For higher concentrations where inter-particle effects become significant and where agglomeration may take place, different regimes of settling rate occur, known as 'zone' settling (*fig 1*).

Information from batch tests for such systems forms a vital part of the search for the optimum design and operation of industrial sedimentation tanks.

Learning objectives

- ▶ Effect of initial concentration on sedimentation rates
- ▶ Construction of settling-rate curves from a single batch test
- ▶ Effect of initial suspension height on sedimentation rates
- ▶ Effect of particle size distribution
- ▶ Use of flocculating additive

Requirements

Scale



- ▶ **Electrical supply:** supplied with a universal mains adaptor suitable for 100-240V / 1ph / 50-60Hz
- ▶ **Water:** Initial fill of 1.5L per tube
- ▶ **CaCO₃ or Chalk** (not supplied)

Technical details

Tube length	1m
Tube internal diameter	51mm
Number of tubes	5

Overall dimensions

Length	0.70m
Width	0.45m
Height	1.30m

Packed and crated shipping specifications

Volume	0.8m ³
Gross weight	90Kg

Features / benefits

- ▶ Low-voltage operation via universal power supply for improved safety
- ▶ LED backboard illumination
- ▶ Pycnometer

Optional accessories

- ▶ Triple beam balance with 0.1g sensitivity (ordering code: INST 059)

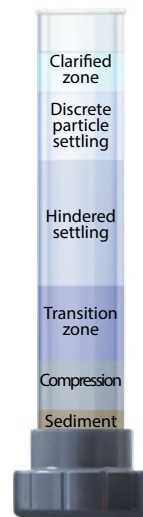


fig 1

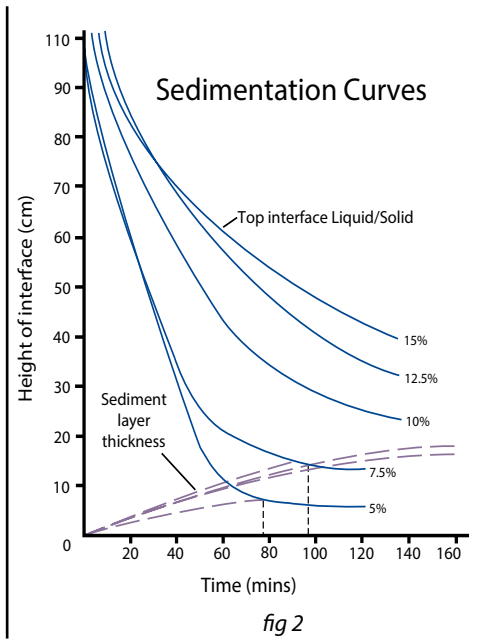


Fig1 zone settling – Fig2 Sedimentation curves from sample data

Ordering specification

- ▶ Five graduated 1m long x 51mm bore glass removable cylinders mounted vertically. Cylinders mounted on a metal vertical frame with illuminated backboard
- ▶ Stop clock
- ▶ Three 2-litre plastic beakers
- ▶ Pycnometer
- ▶ Operational manual with teaching exercises

Ordering codes

- ▶ W2-MkII
- ▶ INST 059 (optional)

Warranty

Armfield standard warranty applies with this product

Knowledge base

- > 28 years' expertise in research & development technology
- > 50 years' providing engaging engineering teaching equipment

Benefit from our experience, just call or email to discuss your laboratory needs, latest project or application.

An ISO 9001:2015 Company



Products CE certified

armfield.co.uk

Aftercare

Installation
Commissioning
Training
Service and maintenance
Support: armfieldassist.com