

Hand-Held Abney Level with Degree and Grade Scales

User Manual

Surveying Instrument

Intended use

Hand-held sighting clinometer for measuring vertical angles and slope grades in preliminary surveying, forestry, civil engineering, trail work and teaching.

Intended users

Surveyors, foresters, engineers, trail crews, contractors and students.

Read this manual completely before first use and keep it with the product. This document provides general operating, care and safety guidance. Where the product is supplied with manufacturer labeling or instructions, those take precedence. For questions, a replacement copy, or a digital copy of this manual, email sales@scimedstore.com.

1. Safety

Safety warnings and cautions

- Never look at the sun through the sighting tube.
- Stand on firm, safe footing before sighting. Do not walk while looking through the instrument.
- Be aware of traffic, slopes, water and other hazards when working in the field.
- Handle the instrument with care; drops can affect its accuracy.
- Check calibration after any impact before relying on readings.

2. Package contents

- Abney level
- Instruction card

Check contents on receipt. Report missing or damaged items to sales@scimedstore.com within 48 hours of delivery.

3. Specifications

Type	Hand-held Abney level with sighting tube and bubble level
Scales	Vertical angle (degrees) and slope grade (%)
Body	Brass/metal tube
Power	None, mechanical

4. Unpacking and setup

- 1 Check that the sighting tube is clean and the bubble vial is not damaged.
- 2 Check the calibration before use as described under Maintenance.
- 3 Choose a target point at the same height above ground as your eye, such as a mark on a pole or on a partner, for slope measurements.

5. Operation

Measuring a slope or vertical angle

- 1 Hold the level to your eye and look through the sighting tube at the target point.
- 2 Keep the crosshair on the target.
- 3 Turn the index arm slowly until the reflected bubble is centered on the crosshair.
- 4 Hold the index arm in place and lower the instrument.
- 5 Read the vertical angle on the degree scale and the slope on the grade (%) scale.
- 6 Record whether the reading is uphill or downhill.
- 7 Take a second sighting to confirm the reading.

Estimating height of an object

- 1 Measure the horizontal distance from your position to the base of the object.
- 2 Sight the top of the object and read the angle or percent.
- 3 Sight the base of the object and read the angle or percent.
- 4 Calculate the height from the distance and the two readings using standard trigonometry or the percent method.
- 5 Add or subtract the two parts according to whether the base is above or below eye level.

6. Cleaning and disinfection

- Wipe the body with a soft dry cloth after use, especially after wet field work.
- Clean the sighting tube ends gently with lens tissue.
- Do not use solvents or abrasives.

7. Maintenance and storage

- Store in a dry pouch or case to protect from impact and dust.
- Check calibration by sighting a target at exactly your eye height on level ground, or by a reciprocal sighting between two points. Adjust using the adjustment method in the included instruction card if needed.
- Do not take the instrument apart.

8. Troubleshooting

Problem	Likely cause	What to do
Bubble cannot be seen in the tube	Too little light or arm far from level	Face a lighter background and rotate the index arm slowly.
Readings not repeatable	Unsteady hand or target point unclear	Brace your arm, use a clear target and take repeated readings.
Level ground does not read zero	Instrument out of calibration	Recalibrate following the included instruction card.
View blurred	Dirty sighting tube	Clean the tube ends with lens tissue.

9. Disposal

- Recycle as metal waste in accordance with local regulations.

10. Warranty and support

Products are covered by SciMed's standard warranty (12 months from purchase unless a different period is stated on your invoice). Warranty terms: scimedstore.com/pages/warranty.

Support, spare parts and additional copies of this manual: sales@scimedstore.com. Please include your order number and a photo of the product or issue.

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