

PENTAX®

AUTOMATIC LEVEL

AL-240/240R/AL-270/AL-270R
AL-300/AL-320/AL-320R/AL-320s



AUTOMATIC LEVEL

AL-SERIES

ACCURATE, EASY-TO-USE, AL-SERIES PENTAX AUTOMATIC LEVEL OFFERS HIGH PERFORMANCE TO MEET A WIDE RANGE OF LEVEL APPLICATIONS.

The AL-series automatic level features improved performance, water resistance, and is compact and light weight for easy transportation and set-up.

The newly-developed automatic compensator is wire suspended and magnetically damped, making these instruments usable in unstable conditions. The telescope has water-proof construction (JIS protection class 6) and a gas-filled objective lens compartment which prevents moisture condensation on the lenses. Operation in the rain or in high humidity conditions is, therefore, possible. The AL-240 and AL-270 provide an extremely short focus distance of 30cm (12 in), allowing usage in confined space.

Features

Water-proof sealed telescope

The telescope housing is constructed for full resistance to rain and accidental water spray. The AL-series meets the JIS protection class 6 for water-proofing. Intrusion of a direct water stream from any direction is prevented, making continued operation in adverse conditions possible.



Reliable automatic compensator

Special alloy ribbons are used, having a long-established reputation, for a newly-developed wire-suspension automatic compensator which provides extremely stable survey results even under unfavorable conditions such as vibration.



AL-240R

AL-270R



AL-300

AL-240

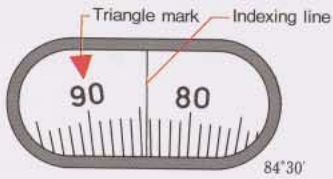


AL-270



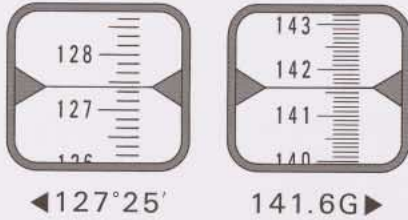
Angle reading
(AL-240/AL-270/AL-300/AL-320)

The horizontal circle is graduated in 1 degree (1 grad) and can be estimated to 6 minutes (10c). Marks at every 90° or 100g are convenient for setting right angles.



Angle reading (AL-320s)

Model AL-320s employs a glass horizontal circle, distinct and easy to read, graduated in 10 minute (10c) divisions. An 18x microscope provides precise circle reading with estimation to 1 minute (1c).



Spherical base for speedy set-up

The AL-240R, AL-270R and AL-320R are equipped with a spherical base for speedy set-up using a flat head tripod.



Speedy set-up on domed head tripod

All standard base models can be mounted on a flat or domed head tripod. Faster set-up is possible on the domed head tripod even when setting up on a slope.



Other features

- Orange-colored telescope cover for high visibility
- Endless tangent screw can be operated by either hand
- Two speed, coarse-fine, focusing mechanism for fast and accurate focusing (AL-320s)
- Optical collimator for fast and accurate sighting (30X and 32X models)

Optional accessories

Electric illumination device EP2

The EP2 electric illumination device attaches to the front of the telescope to illuminate the reticle for night work or work in dark places such as a tunnel.



Diagonal eyepiece SBL2

The SBL2 diagonal eyepiece is to be used when space is limited or when the instrument is low and it is hard to look into the telescope eyepiece.



Parallel plate micrometer SM4

The SM4 parallel plate micrometer attaches to the front of the telescope for leveling and civil engineering work requiring high accuracy. It provides reading down to 0.1mm, (.001ft. or .002in)



AL-320



PENTAX AL-320s



AL-320R



AL-320s

AL-Series Specifications

	AL-240	AL-240R	AL-270	AL-270R	AL-300	AL-320	AL-320R	AL-320s
Telescope	Internal anallactic optics							
Image	Erect							
Magnification	24X		27X		30X		32X	
Objective aperture	36mm		40mm		42mm		45mm	
Resolving power	3.5"		3"				2.5"	
Field of view	2.5% (1'26")				2.3% (1'20")			
Minimum focus distance	0.3m/12 inches				0.5m/20 inches			
Stadia ratio	1 : 100							
Stadia constant	0							
Automatic compensation								
Compensation range	±12'							
Setting accuracy	±0.5"				±0.3"			
Standard deviation * (1 Km double run leveling) **	±2.0mm		±1.5mm		±1.0mm		±0.8mm	
	—		—		±0.5mm		±0.4mm	
Sensitivity of vial								
Circular vial	8'/2mm							
Horizontal circle	Metal						Glass	
Diameter	96mm						88mm	
Graduation	1"/1G						10'/10c	
Estimation	0.1'/0.1G						1'/1c	
Leveling base	3 screw	Spherical	3 screw	Spherical	3 screw	Spherical	3 screw	
Dimensions and weight								
Length (mm)	219				247			
Width (mm)	147							
Height (mm)	133	137	133	137	137	141	137	
Weight (kgs./lbs)	1.6/3.5	1.8/3.9	1.6/3.5	1.8/3.9	1.8/3.9	2.0/4.4		
Carrying case (mm)	364(L)×200(W)×180(H) 1.5kgs./2.3lbs							

* Standard deviation measured without the parallel plate micrometer

** Standard deviation measured with the parallel plate micrometer

Standard equipment

- Instrument
- Objective cap
- Plumb bob
- Hexagonal wrench
- Lens brush
- Rain cover
- Silicon cloth
- Instruction manual
- Carrying case



* Designs and specifications are subject to change without prior notice.

PENTAX® CERTIFIED ISO 9001

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