# Angle Plate Universal Angle Plate

# **Instruction Manual**

To ensure correct use, please read this instruction manual carefully before use. After reading, keep it in a safe place where the user can always refer to it.



OBISHI KEIKI SEISAKUSHO Co., Ltd.

# Safety Precautions

- \*Before use, please read this instruction manual carefully and use the product correctly.
- \*The precautions shown here are intended to ensure the safe and proper use of the product and to prevent any potential hazards to the user.
- \*The precautions are categorized into three levels **Danger, Warning, and Caution** to clearly indicate the severity and urgency of potential harm or damage that may occur if the product is mishandled.

## For Safe and Proper Use

This instruction manual includes various symbols and pictograms throughout the text to ensure correct use of the product and to prevent harm or damage to the user.

The symbols and their meanings are as follows.

- Please read the text after fully understanding the symbols and their meanings.
- After reading, be sure to keep this manual in a place where anyone using the product can easily refer to it at any time.
- All of these are safety-related instructions, so please be sure to follow them.

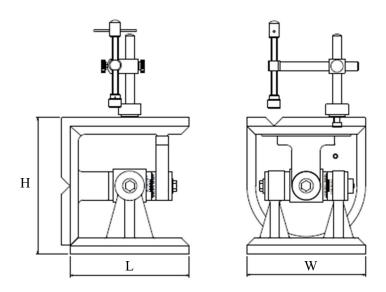
A Danger		This indicates situations where incorrect handling could result in imminent		
		risk of death or serious injury.		
⚠ Warning		This indicates situations where incorrect handling could potentially result in		
		death or serious injury.		
1 Caution		This indicates situations where incorrect handling may result in injury to		
		persons or only property damage.		
Examples of symbols	<u> </u>	The △ symbol indicates the presence of danger, warning, or caution messages, with specific precautions described within the figure. (The left figure is used to indicate general danger, warning, or caution without specifying details.)		
	0	The o symbol indicates prohibited actions, with specific precautions described within or below the figure.  (The figure on the left is used for general prohibition notices without specifying particular actions.)		
	0	The ● symbol indicates mandatory actions, with specific instructions detailed within the figure.  (The figure on the left is used for general mandatory actions or instructions without specifying details.)		

# Universal Angle Plate Instruction Manual

# 1. Product Features

- Inclination can be adjusted in both front-back and left-right directions.
- Equipped with graduations for the main scale (1° divisions) and the vernier scale (5' divisions) in all directions.
- Two V-grooves are provided, each ensuring parallelism with the bottom surface.
- · Supplied with one clamp for fixing the workpiece.

# 2. Appearance Diagram



# 3. Specifications

Code No.	Nominal	Size (L×W×H mm)	Parallel Squareness (μm)	Mass (kg)
NA101	150	$162 \times 149 \times 174$	10	15
NA102	200	214×199×228	15	28
NA103	250	$268 \times 249 \times 286$	20	62
NA104	300	$320 \times 299 \times 319.5$	25	90
NA105	350	$370\times349\times390$	30	130

## 4. Instructions for Use

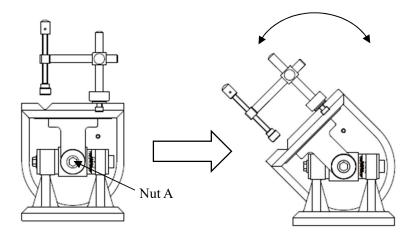
- ① Wipe this instrument clean and place it on the surface plate.
- ② Attach the workpiece fixing hardware (clamp).
- ③ Tilt this instrument to the required angle while referring to the angle graduations.
- ④ Mount the workpiece using the fixing hardware (clamp).
- ⑤ Perform the measurement.
- 6 After completing the measurement, remove the workpiece.
- 7 Return this instrument to its original angle (or leave it tilted).

Note: Always tighten nuts and other fixing parts securely to ensure that neither this instrument nor the workpiece moves during operation.

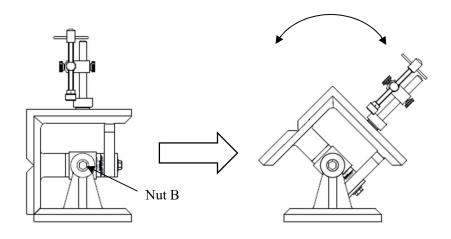
## Method of Changing the Angle

This instrument allows easy adjustment of the angle in both front-back and left-right directions by using the angle graduations.

## When nut A is loosened and the instrument is tilted



## When nut B is loosened and the instrument is tilted



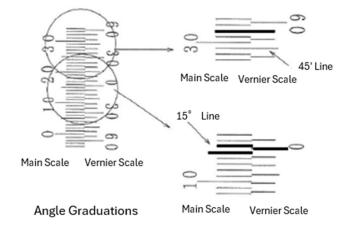
## How to Read the Angle Graduations

The method of reading the main scale and the vernier scale of the angle graduations is as follows:

Main scale: 1° per division

**Vernier scale:** 5' per division

(Example: 15° 55')



#### Minute Unit: 55'

The 55' line on the vernier scale coincides with the 32' line (bold line).

### Degree Unit: 15°

The 0 position of the vernier scale is located between  $15^{\circ}$  and  $16^{\circ}$  on the main scale (bold line).

#### 5. Precautions for Use

- ① Clean the Precision Surface and the measurement surface of the workpiece before use.
- ② Handle the instrument carefully during use and storage to avoid impact or shock.
  - ③ Allow the instrument to acclimate to the ambient temperature before use.
  - ④ Do not use or store the instrument in places with drastic temperature changes.
- S After use, always apply rust prevention treatment and store the instrument in its storage case.
  - 6 Check the instrument for abnormalities before use in the following cases:
    - When the instrument has been dropped.
    - When an object has been dropped onto the instrument.
  - Theck the accuracy regularly before using the product.
- △ ⑧ If the product has sharp edges, handle it carefully to avoid injuring your fingers or other parts of your body.
- △ ⑨ For heavy products, handle placement and other operations with two or more people, and take care to avoid injury.
  - Wear protective gloves and safety glasses as necessary to prevent injury while working.
- $\triangle$  ① Do not use this product if it is damaged or deteriorated, as it may cause injury or accidents.
- $\triangle$  ② If an injury occurs, give first aid immediately and seek medical attention if necessary.

## **Contact Information**



JIS Certified Factory

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Design, development, manufacturing, and calibration services for precision measuring instruments (levels, surface plates, straight edges, reference measuring instruments, square rulers, blocks, dial gauge stands, comparators, angle measuring instruments, bench centers, squareness measuring instruments).