



# Contactless Optical Tool Presetter

**Aegis-i**  Series **AOTP**



Max Measurement  
X-axis :  $\varnothing$ 400mm  
Z-axis : 500mm

***NT's original "Easy To Operate" optical tool presetter.***

**User friendly!**

- **Contactless measurement does not damage cutting edges.**  
Suitable for expensive cutting tools such as diamond and CBN.
- **Easy operation reduces human errors.**
- **Cutting tools in various shapes can be measured.**
- **Tightening of collet holder is possible on the presetter. ( Up to 60Nm )**  
Please move the camera away from the spindle when tightening.



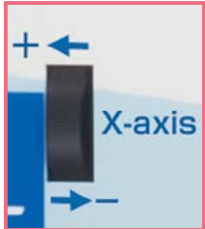
**NT TOOL CORPORATION**

# Easy to use! Well thought out operational design. Designed by customer's voices.

## User Friendly Mechanical Body

### Fine Adjustment Dial for Z-axis / X-axis

Quick camera positioning by rotating the dial.



### Camera Handle

Simple one hand operation.  
Movable in X-axis direction or Z-axis direction separately/simultaneously.



### Camera Arm

Measurement up to dia.400mm is possible.



### Tightening of a collet holder is possible. (Up to 60Nm)

Move the camera away from the spindle when tightening.

It enables the following processes to be consolidated.

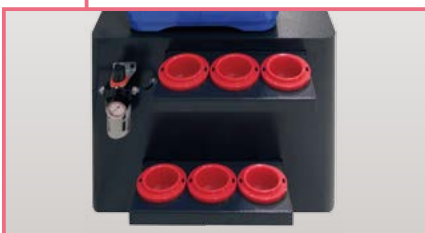
- Collet subduction correction.
- Adjusting the protruding length of the cutter.
- Measuring Runout



### Mechanical Clamp

400kg air cylinder firmly clamps the tool holder. Good repetitive accuracy of tool holder clamping/unclamping.

### Motor driven (Option)



### Adapter Trays are included.

Frequently used adapters and holders can be placed nearby.



### Cutting Tool Projection Length Adjustment (Option)

An operation handle for cutting tool projection length adjustment can be added.

# Easy-to-use Software with Tutorial Function.

Suitable for non-experienced operator!  
Tutorial can be displayed by one click.

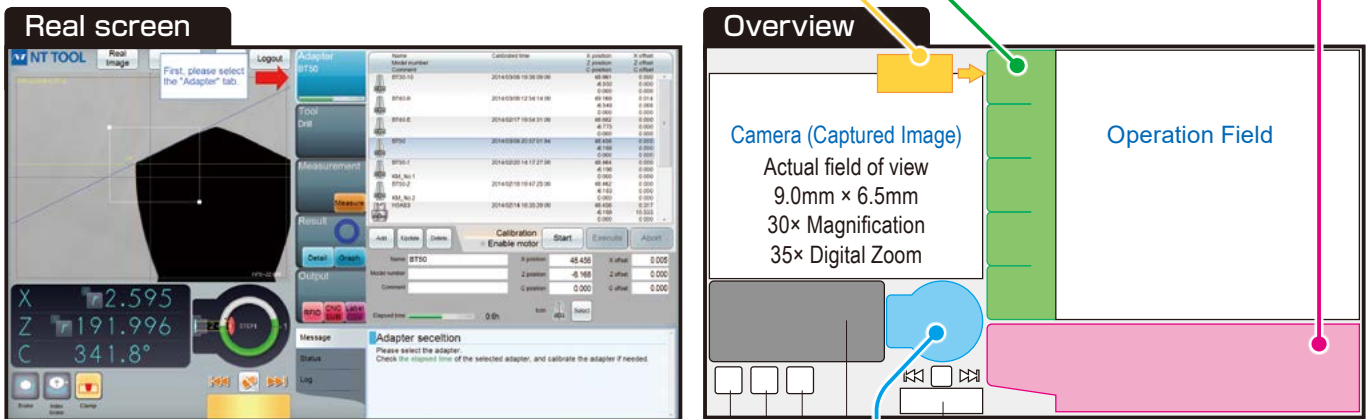
Never operated? Don't worry!  
The machine guides you what to do!

Operation screen lined up in  
working sequences!

Well though out layout of the  
operation screen  
minimizes operation.

Just follow comands on the  
message screen!

Information about current  
operational status and function  
in use are shown in the special  
field.



### Break

Spindle can be stopped at any location.

### Index Break

Spindle can be pin-locked at 90 degrees.

### Clamp / Unclamp

### Coordinates

X=Radius/Diameter, Z=Height, C=Rotational Position.

\*X and Z values indicate position of the camera center when not measuring.

### Spindle Control

Forward / reverse to the next / previous cutting edge.

: Free the motor.

## "Magic Eye" shows the positions of cutting edges.

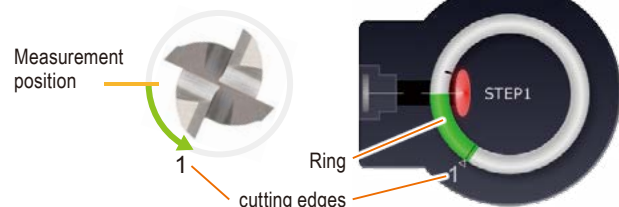
Target cutting edge is always clear even with endmills and facemill cutters.

### Beginning of measurement

The ring turns green in accordance with cutting tool rotation. Numbers are assigned on the detected cutting edges.

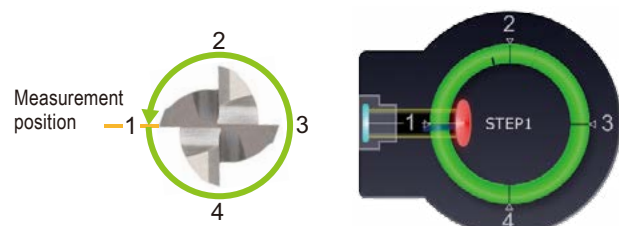
### Actual cutting edges

### Magic eye



### Detection of cutting edges completed.

Shows position of cutting edges in real-time.

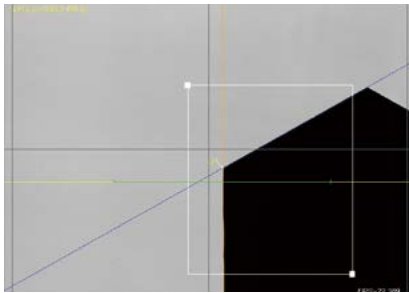


# Measurement function

## Runout measurement of the cutting edge

Capture the area you want to measure. Then, turn the spindle 360degrees.

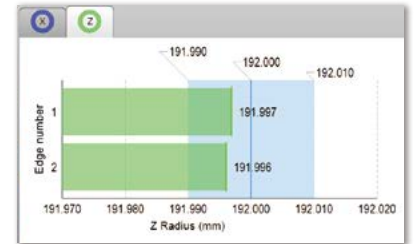
The measurement result against target value can be shown as ○ (good) and × (bad), along with sound effects. The result can be also shown as a graph.



○: Good, ×: Bad

	X axis	Z axis	Radius	Angle 1	Angle 2	C axis
Upper tol.		0.010				
Target		192.000				
Lower tol.		-0.010				
1	2.599	191.997			162.9°	
2	2.595	191.996			341.8°	
Δ	0.004	0.001				

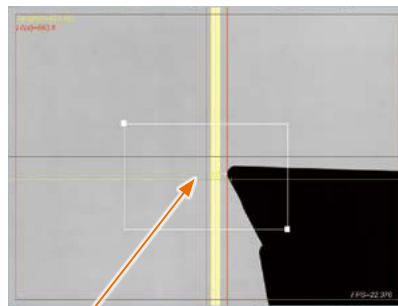
Measurement result



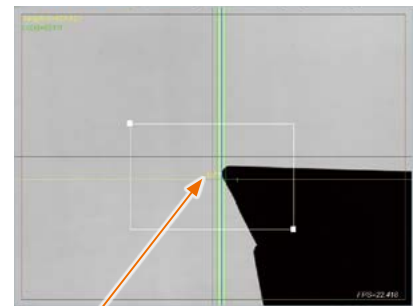
Graph

## Target Bar

Easy diameter adjustment for boring bars with presetting target shown on the screen.



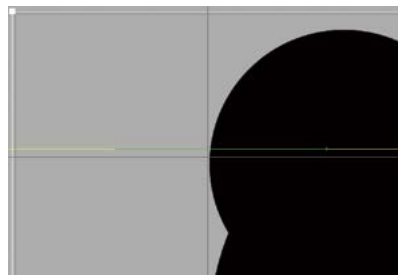
Presetting Target Range (Yellow color when the cutting edge is out of the range)



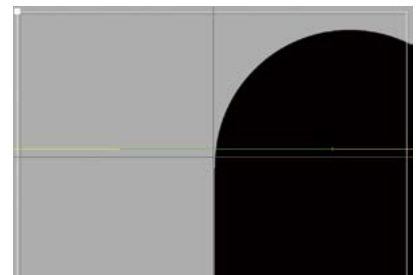
Presetting Target Range (Green color when the cutting edge is within the range)

## Measuring Afterimage

The cutting tool's profile is plotted by rotating the spindle 360 degrees.



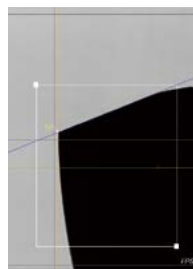
Before afterimage measurement



After afterimage measurement (afterimage of rotated tool is shown.)

## Measuring Step Drill

Each step can be measured separately.



Step 1

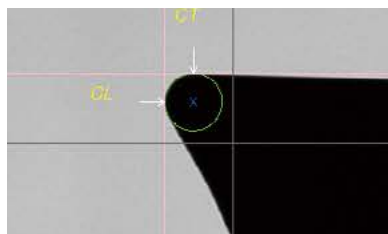


Step 2

	X axis	Z axis	Radius	Angle 1	Angle 2	C axis
Upper tol.						
Target						
Lower tol.						
1	3.255	211.729			71.2°	
2	3.251	211.705			252.3°	
Δ	0.004	0.024				

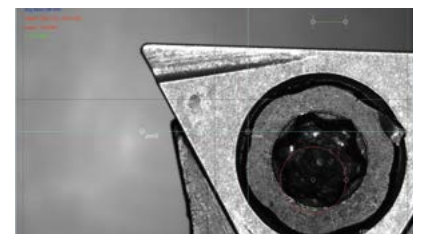
## Measuring Radius

Nose-radius can be measured based on the contour of the cutting edge.



## Real image of cutting edge

Wearing and chipping on cutting edge can be inspected.





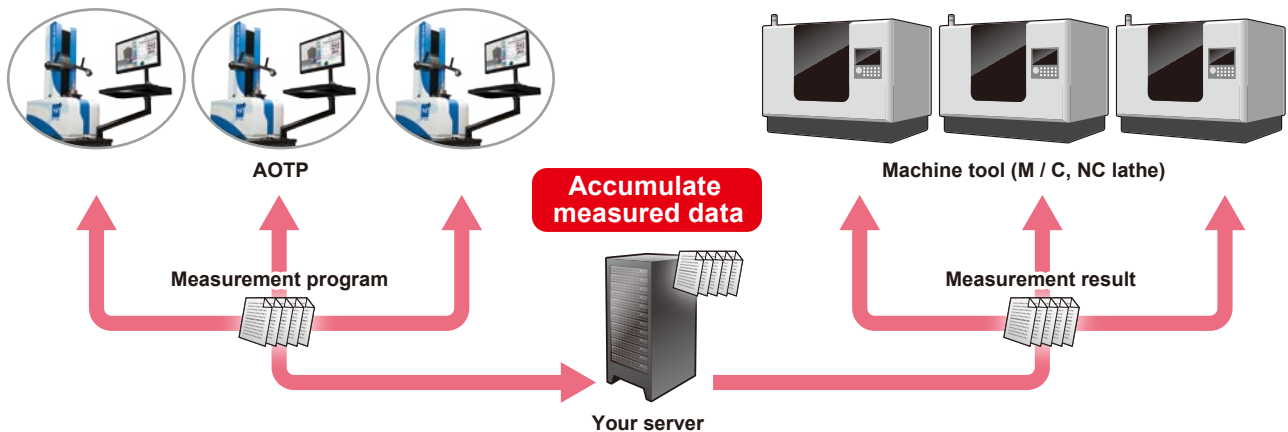
## Customization Case 01: Sharing measurement data.

The AOTP measurement data can be customized to be saved onto your server. Measurement data accumulated in the saved server location, then can be shared with connected AOTP devices, or transferred to a machine system (M / C, NC lathe) for use. \*The machine system side needs data sharing capability with the server to perform the task.

By accumulating the measurement data of an individual AOTP in your server, you can...

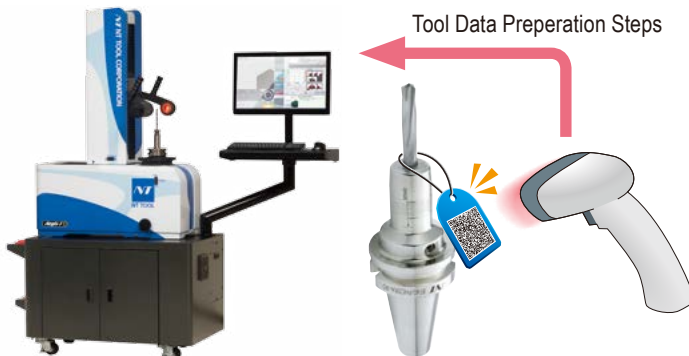
Share data with multiple AOTPs!

Transfer measurement data to machine tool (M / C, NC lathe) and utilize it!



## Customization Case 02: Using QR codes to create faster, more efficient processes.

By registering the tool information into a QR code, printing the code out, and attaching it to the holder with a tag, you can bring up the tool information from then on, simply by reading the QR code attached to the tool. The operator will not need to search for the tool information from a list, or other time consuming method. This makes it possible to eliminate human error, such as selection mistake.



- ① Register the tool data (Measurement, contents, etc.) of each holder into its own individual QR code. Then attach the corresponding code to the matching holder with a tag or other method in advance.
- ② When measuring each holder, scan the QR code into the presetter, it will instantly display the tool data (measurement, contents, etc.) on the presetter screen and start the measurement process immediately.



## AOTP

Code	Model	Retention Stud	
		BT	CAT
4940 00 ※ 50011	<b>AOTP-500-1A</b>	PSB-7, PSB-8, PSB-14 PSB-19, PSB-7-CH PSB-8-CH	—
4940 00 ※ 50013	<b>AOTP-500-1C</b>	PSB-17	—
4940 00 ※ 50024	<b>AOTP-500-2D</b>	PSB-24	PSC50-1
4940 00 ※ 50025	<b>AOTP-500-2E</b>	PSB-50P	—

Code ※ is M specification: 1, P specification: 2, MP specification: 3.

1. Please select a model based on the retention stud type.
2. Retention stud not shown in the above chart can be also used. Please contact NT Tool Corporation for details.

## Unit Options

	Standard	Option
Spindle rotation	Manual	Automatic (Motor driven)
Cutting edge height adjustment	—	Height adjustment handle can be added to the front.

In addition to those options, customization of software and body is possible upon request. Please contact NT TOOL for details.

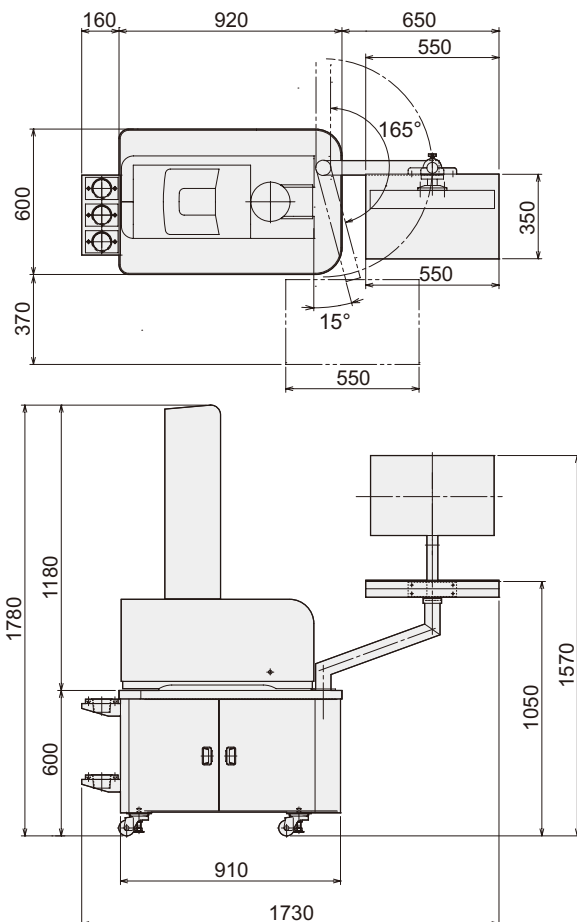
### Ordering Example

**AOTP-500-1A** ○ ○

Without cutting edge height adjustment : Leave blank  
With cutting edge height adjustment : Add "P"

Manual Spindle Rotation: Leave blank  
Automatic Spindle Rotation: Add "M"

## Specifications of AOTP



External dimensions	1730mm x 600mm x 1780mm (WxDxH)
Weight	300kg
Power supply	100 ~ 240V AC, 50/60Hz
Power consumption	300W
Air pressure	0.4 ~ 0.6Mpa
Measurement	X-axis : $\phi$ 400mm Z-axis : 500mm
Minimum reading	0.001mm
Spindle size	<u>BT50 (Adapters for different spindle sizes available.)</u> 1. When using an adapter, Z-axis measurement area will be narrower due to the height of the adapter. 2. Manual spindle rotation. Motor drive can be added as an option.
Clamp method	Mechanical clamp
Specifications of camera	1.3 million pixel CCD monochrome
Screen magnification ratio	30× Magnification
Display size	21.5"
Cutting edge measurement range	9.0 x 6.5mm
Menu manipulation method	Touch panel, mouse, keyboard
Language selection	English, Japanese, Korean
Accessories	Adapter tray

1. Switchable between Inch and Metric display.
2. Label printer is sold separately.
3. Specifications and design of the product are subject to change without notice.

## Adapters (Sold Separately)

To measure tool holders other than BT50 shank size, adapters are necessary.  
Please contact NT TOOL for details.

### For BT, CAT and SK



**BT30, BT40, CAT40, SK40**

※Please designate the type of retention stud in use.

### For HSK



**HSK32, HSK40, HSK50,  
HSK63, HSK100**

### For UTS



**UTS6350, UTS10080**

### For C



**C3, C4, C5, C6**

## Accessories

#### Label printer (Sold Separately)



Code

Model

Note

4944 10000014

**AOTP-PRINT-BRO**

Thermal printer. No need for cartridges. Measured values can be printed. Tool name, model, and comments registered beforehand can be printed together.

Ordering Example

**AOTP-PRINT-BRO**

#### Label for printer (Sold Separately)



Code

Model

Note

4944 10000015

**AOTP-PRINT-BRO-LA**

Approx. 64 labels. Label size : 100 X 24mm

Ordering Example

**AOTP-PRINT-BRO-LA**

#### Cleaning putty (Included with AOTP)



Code

Model

Note

4944 10000013

**AOTP-DUST-C**

To clean the cutting edge for accurate measurement.

Ordering Example

**AOTP-DUST-C**

# Presetter Series

Contactless Optical Tool Presetter



SOTP

**Simple and Compact! High-performance presetter - affordable price!**



Tighten the cap of the collet holder on the machine is possible!

\*Option / MAX 60 Nm



### Measurement

X-axis .....  $\phi 300\text{mm}$   
Z-axis ..... 400mm

### Mechanical Clamping

A pneumatic cylinder clamps the holder securely in place, guaranteeing excellent accuracy through repeated mounting of holders.

## Contact / Projection Type Tool Presetter



### NTP-400

- Column movement method  
Lever (Auto)
- Measurement range  
(X axis)  
0~ $\phi 400\text{mm}$
- Measurement range  
(Z axis)  
50~500mm



### NTP-300A

- Column movement method  
Handle (Manual)
- Measurement range  
(X axis)  
0~ $\phi 300\text{mm}$
- Measurement range  
(Z axis)  
50~500mm

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