



MEASUREMENT SOLUTION PROVIDER

INSIZE PLUS

No. ISP-B420

MADE IN GERMANY

TOOL PRESETTERS

CATALOGUE NO. ISP-E01

Presetting—The key to success

- The **Insize** tool presetter helps you save time and money, giving you a decisive competitive edge.
- Tool presetting measurements can be performed without stopping the machine tool.

Substantial Returns

- Precise tool measurement, optimization of machine tool uptime, and extended tool life all yield significant economic benefits.

Accurate Measurement

- Features well-known brands, such as high-precision THK guideways and Heidenhain linear encoders.
- High-precision ISO/SK/BT50 spindle.
- Image processing system with dynamic crosshairs.

Economical

- Combines three functions in one: tool measurement, presetting, and inspection.
- One-stop solution: Includes converters, worktable, bracket and printer etc.

Simple

- Uses advanced image processing technology to easily perform tool presetting.
- Intuitive and easy-to-understand operation.

Application



Automotive Manufacturing



Aerospace



Tool Manufacturing



Mold Manufacturing



General Machinery



Energy Equipment



01

| Product Overview

- Windows operating system
- Telecentric lens CCD camera system
- Use Bosch or Festo pneumatic components, THK guideways and HEIDENHAIN scales
- Built-in 113 cutting edge shapes, automatic recognition
- Measuring radius, angle, concentricity, axial runout, etc
- Storage of 3000 tool parameters
- View, print and export measurement results

air flotation button



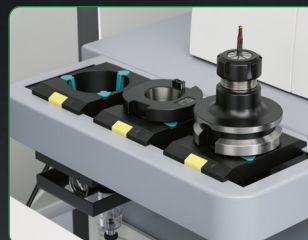
CCD camera and LED surface light source



ISO/SK/BT50 spindle (included)



bracket for tools and converters (included)



LED contour light source

controller

13.3" LCD touch screen

X/Z coordinate display

image display

result

menu

key function



vacuum clamping (optional)

360° clamping (included)

4×90° clamping (included)

printer (included)

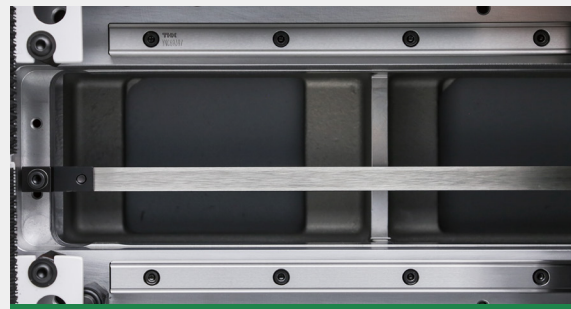
table (included)



02

| Superior Hardware Quality

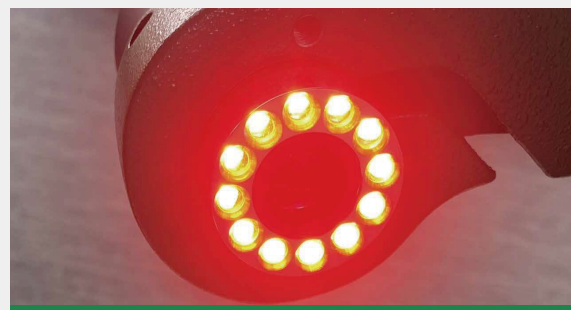
Use Bosch or Festo pneumatic components, THK guideways and HEIDENHAIN scales.



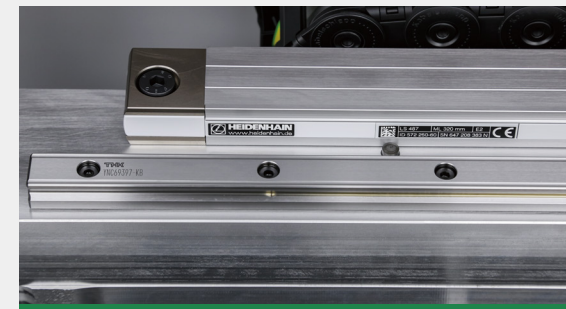
Equipped with high-precision THK dual guide rails to ensure smooth operation and precise positioning of the equipment.



High-precision ISO/SK/BT spindles with reference points (concentricity: 2 μ m).



Comes standard with a long-lasting LED cold light source for inspecting and observing cutting edges.



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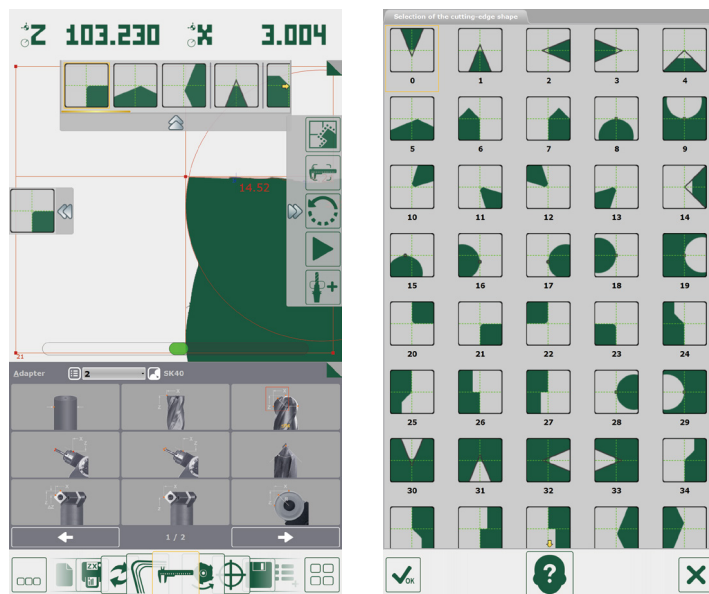
Ergonomically designed control handle
One-handed operation for quick movement along the X and Z axis.



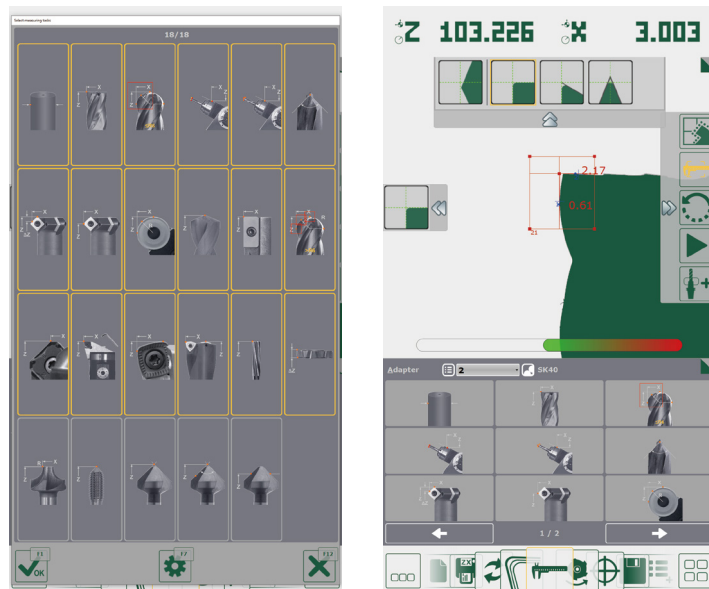
Equipped with bracket for tools and converters for safe and professional storage.

03

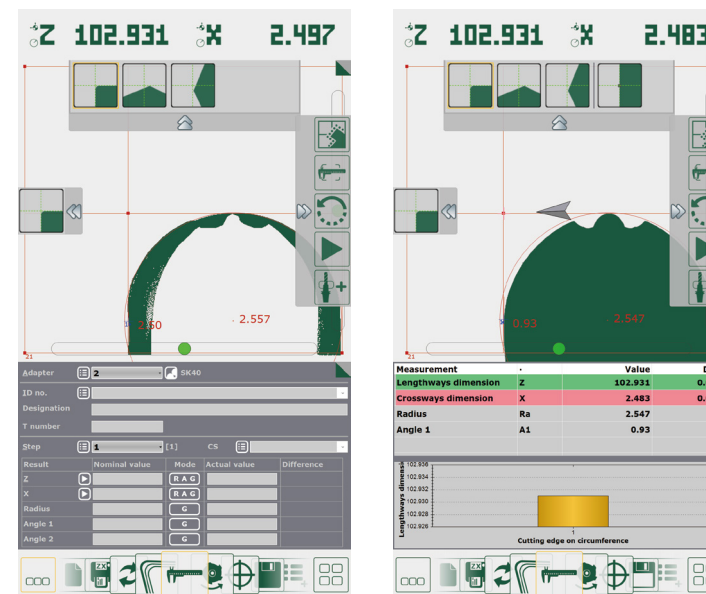
| Software Features

**Automatic Cutting Edge Detection**

- 113 built-in cutting edge shapes
- Quick measurement of X, Z, radius, and angle
- Instant display of radius and angle

**Built-in Measurement Macros**

- Quickly measure cutting tools; choose from 15 tool types
- Graphical menu for tool selection

**Measuring the Tool Profile**

- For determining and measuring the contours of multi-segment cutting tools
- Target values and tolerances can be saved difference highlighting:
red (outside tolerance), green (within tolerance)

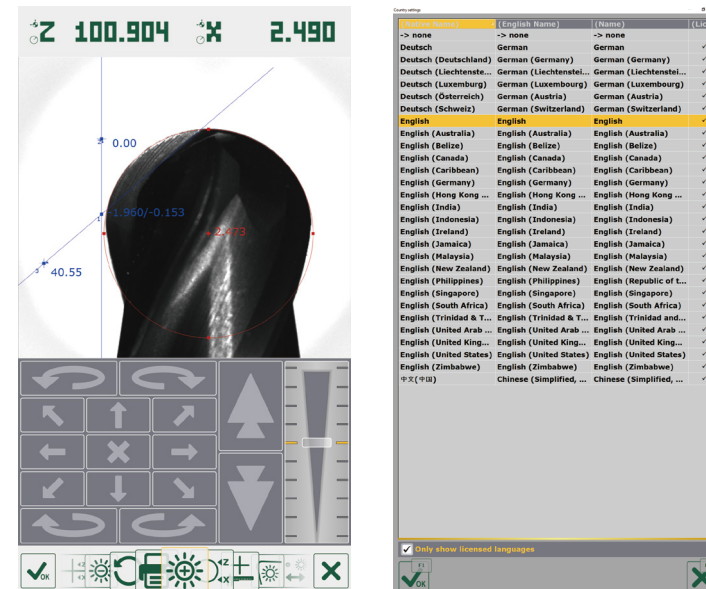


Figure1

Figure2

Cutting Edge Inspection

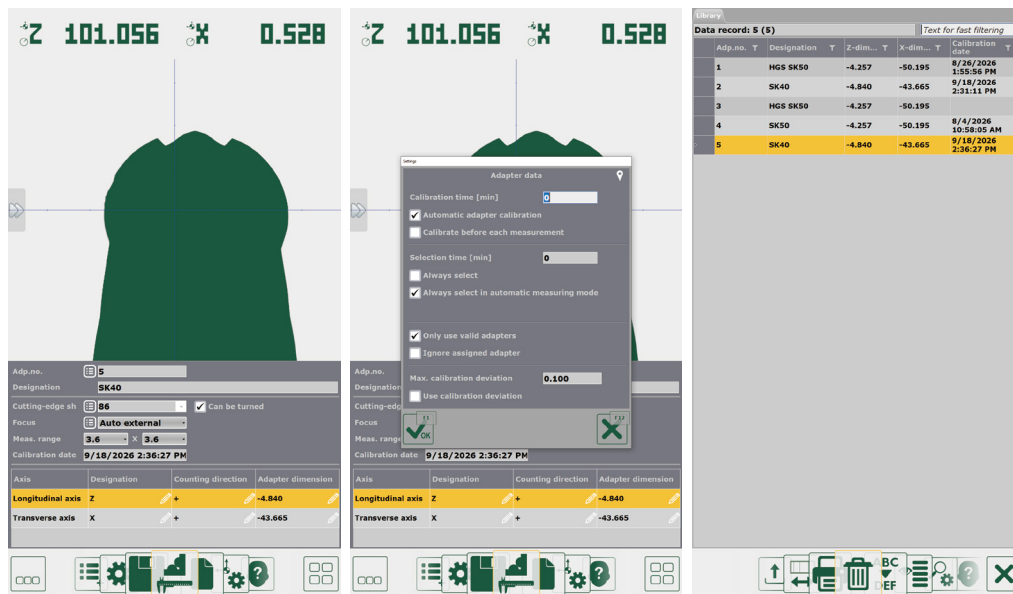
- 20X magnification
- 12 incident-light LEDs, touch-controlled lighting (Figure1)

Supports multiple languages

- Multiple language options, including Chinese, English, German, etc. (Figure2)

04

| Optional Accessories



Converter Management

- Manages up to 99 converters with zero point
- With zero-point detection

Spindle vacuum clamping:

Enables low-pressure clamping between the spindle and the tool holder



Various converters are available:

SK50 to SK/HSK/Capto/VDI adapter sleeve



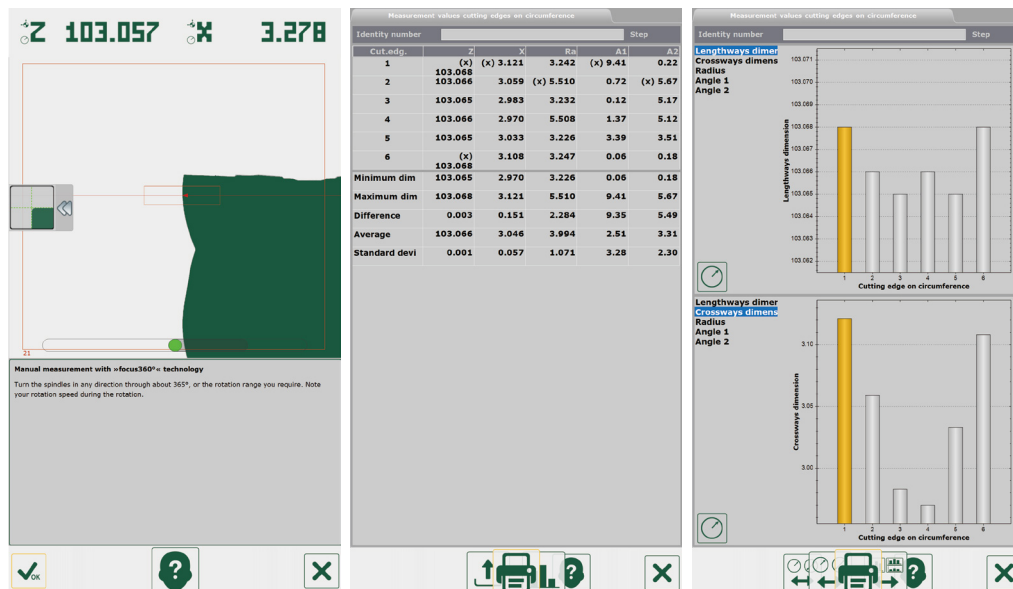
Autofocus Feature:

Automatically focus on the cutting edge of the tool



Data Transmission:

Transmit the tool data to the CNC machine based on the type of control system



Quick Measurement of Tool Runout

- Measuring the concentricity and axial runout of cutting tools
- Displays the measurement results as a bar chart

05

| Comparison

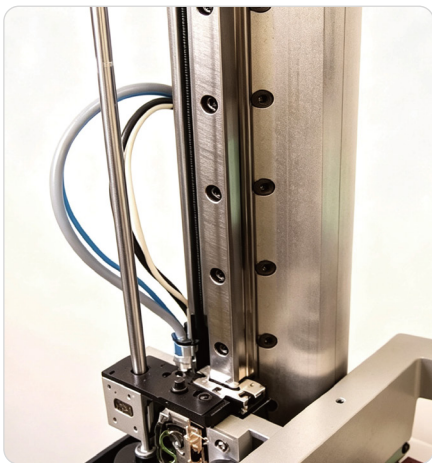
Pain points

✗ Breakage



The counterweight is suspended by a single steel wire, and there is a risk of breakage due to material fatigue and defects.

✗ Single guideway

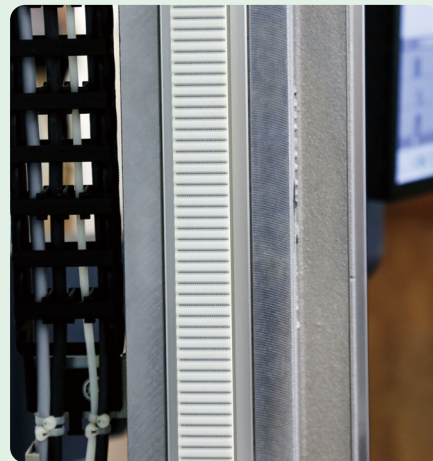


Having only one guide rail on the Z-axis may cause instability in the pre-adjustment device and introduce errors in the entire measurement system.

PK

Solutions

✓ Long service life



The system uses a toothed belt made of high-performance polyurethane, combined with a crossbeam structure featuring dual pulleys, ensuring excellent motion stability and a long service life.

✓ High-precision dual guideways



The Z-axis features THK high-precision dual guideways, ensuring smooth and precise movement as well as a long service life.

Material
Structure

Guideway

► Compared with other tool presetters



Zero setter

- ☹ Low accuracy
- ☹ Limited measurement parameters
- ☹ Simple design, prone to wear



Tool presetter (projector type)

- ☹ High margin of human error
- ☹ Low measurement accuracy
- ☹ Limited measurement capabilities



Tool presetter (visual type)

- 👍 High measurement accuracy
- 👍 Powerful software measurement capabilities
- 👍 Good repeatability of measurement accuracy
- 👍 More user-friendly ergonomic design



Tool presetter (with indicator)

- ☹ Low measurement accuracy

06

| Specification



SPECIFICATION

Code	ISP-B420	ISP-B420H
Maximum tool diameter (X axis)	420mm	420mm
Maximum tool height (Z axis)	420mm	600mm
Range of snap gage (X axis)	100mm	
Repeatability	X axis	2μm
	Z axis	2μm
X/Z axis resolution	1μm	
Camera	color CCD	
Image processing accuracy	1μm	
Magnification	20X	
View field	7×7mm	
Illumination	adjustable LED light	
Spindle	ISO/SK/BT50 (concentricity 2μm)	
Data output	USB, RS232	
Working air pressure	0.6~0.8MPa	
Environmental requirement	temperature: 5~35°C	
	relative humidity: 10%~95%	
Power supply	110/220V, 50/60Hz	
Dimension (L×W×H)	1900×750×1750mm	1900×750×1950mm
Net weight	274kg	289kg

STANDARD DELIVERY

Main unit	1 pc
Controller	1 pc
Bracket for tools and converters	1 pc
ISO/SK/BT50 spindle (including 360° clamping and 4×90° clamping)	1 pc
Printer	1 pc
Printer label paper	1 pc



ISO/SK/BT50 to HSK63
A/C/E, HSK80 B/D/F
converter (optional)

OPTIONAL ACCESSORY

ISO/SK/BT50 to ISO/SK/BT40 converter	ISP-A350-C1
ISO/SK/BT50 to ISO/SK/BT30 converter	ISP-A350-C5
ISO/SK/BT50 to HSK100 A/C/E, HSK120 B/D/F converter	ISP-A350-C8
ISO/SK/BT50 to HSK80 A/C/E, HSK100 B/D/F converter	ISP-A350-C7
ISO/SK/BT50 to HSK63 A/C/E, HSK80 B/D/F converter	ISP-A350-C2
ISO/SK/BT50 to HSK50 A/C/E, HSK63 B/D/F converter	ISP-A350-C3
ISO/SK/BT50 to HSK40 A/C/E, HSK50 B/D/F converter	ISP-A350-C4
ISO/SK/BT50 to HSK32 A/C/E, HSK40 B/D/F converter	ISP-A350-C6
Spindle vacuum clamping	ISP-A350-VC
Printer label paper	ISP-A350-TAB



ISO/SK/BT50 to
ISO/SK/BT40
converter (optional)



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