

Technical  
Description



# **EZset Tool Presetters with ICbasic, IC1, IC2, and IC3**



[www.EZset.info](http://www.EZset.info)

# Table of Contents

|   |       |   |       |
|---|-------|---|-------|
| <ul style="list-style-type: none"> <li>■ <b>Overview of EZset Tool Presetters</b></li> <li>- Standard Machine Components</li> </ul>   | p. 3  | <ul style="list-style-type: none"> <li>- Meter Settings</li> </ul>  | p. 25 |
| <ul style="list-style-type: none"> <li>■ <b>EZset Tool Presetters in Detail</b></li> <li>- EZset Variations</li> <li>- Color Names</li> </ul>   | p. 4  | <ul style="list-style-type: none"> <li>- Adapter Management</li> <li>- Zero Point Monitoring</li> <li>- Online Help</li> <li>- Language Selection</li> </ul>  | p. 26 |
| <ul style="list-style-type: none"> <li>■ <b>EZset ImageController Image Processing</b></li> <li>- "EZclick": ImageControllerbasic</li> <li>- "EZpush": ImageController1</li> <li>- "EZtouch": ImageController2</li> <li>- "EZslide": ImageController3</li> </ul>  | p. 5  | <ul style="list-style-type: none"> <li>- Data Output via Serial Interface RS232</li> <li>- EZnavigator – Compass Needle</li> <li>- Cutting Edge Inspection</li> <li>- Projector Function</li> <li>- Further Measuring Programs</li> </ul>   | p. 27 |
| <ul style="list-style-type: none"> <li>■ <b>EZgo with ImageControllerbasic</b></li> <li>- EZgo with ImageControllerbasic Measuring Ranges</li> <li>- ImageControllerbasic Hardware and Software</li> </ul>  | p. 6  | <ul style="list-style-type: none"> <li>- Tool Management</li> <li>- EZstart</li> <li>- List Printing Function</li> </ul>  | p. 28 |
| <ul style="list-style-type: none"> <li>■ <b>ImageControllerbasic Standard Functions</b></li> <li>- Measuring Z and X Values,</li> <li>- Concentricity (X Axis) and Axial Runout (Z Axis)</li> <li>- EZmax – Measuring the Tool Contour</li> <li>- Distance Measuring in Z and X Directions</li> <li>- Meter Settings</li> <li>- Adapter Management</li> <li>- Zero Point Monitoring</li> <li>- Online Help</li> <li>- Language Selection</li> <li>- Data Output via Serial Interface RS232</li> </ul>   | p. 7  | <ul style="list-style-type: none"> <li>- Manage / Measure Tooling Sheets</li> </ul>   | p. 29 |
| <ul style="list-style-type: none"> <li>■ <b>ImageControllerbasic Optional Functions</b></li> <li>- Adding Radius and Angle to Measured Values</li> <li>- Cutting Edge Inspection</li> <li>- Additional Measuring Programs</li> <li>- Tool Management</li> <li>- Label Printing</li> </ul>   | p. 9  | <ul style="list-style-type: none"> <li>■ <b>ImageController3 Optional Functions</b></li> <li>- EZturn – Center Height Measuring Device</li> <li>- Control Technology Specific Data Output (DOP) to the CNC Machine</li> <li>- Machine Management (in DOP Scope of Delivery)</li> </ul>  | p. 29 |
| <ul style="list-style-type: none"> <li>■ <b>EZset with ImageController1</b></li> <li>- EZset with ImageController1 Measurement Range</li> <li>- ImageController1 Hardware</li> </ul>  | p. 10 | <ul style="list-style-type: none"> <li>■ <b>EZstart for ImageController1, 2, and 3</b></li> <li>■ <b>EZset Identification »zidCode« for ImageController2, and 3</b></li> <li>■ <b>»zidCode« EZset Identification Code Variations</b></li> <li>■ <b>Tool Identification* (available for IC3)</b></li> <li>■ <b>Standard Data Output – ImageController1, 2, and 3</b></li> <li>- Standard Data Output</li> <li>- Format Description</li> <li>- Output Example (RS232)</li> <li>- EZtoolOrganizer (Optional)</li> <li>- In Conjunction with EZtoolOrganizer: Post Processors (Optional)</li> </ul>                                       | p. 30 |
| <ul style="list-style-type: none"> <li>■ <b>ImageController1 Standard Functions</b></li> <li>- Measuring Z and X Value, Radius, and Angles</li> <li>- Concentricity (X Axis) and Axial Runout (Z Axis)</li> <li>- EZmax – Measuring the Tool Contour</li> <li>- Distance Measuring in Z and X Directions</li> <li>- Meter Settings</li> <li>- Adapter Management</li> <li>- Zero Point Monitoring</li> <li>- Online Help</li> <li>- Language Selection</li> <li>- Data Output via Serial Interface RS232</li> <li>- EZnavigator – Compass Needle</li> <li>- Cutting Edge Inspection</li> <li>- Projector Function</li> <li>- Tool Management</li> <li>- EZstart</li> <li>- List Function</li> </ul> | p. 11 | <ul style="list-style-type: none"> <li>■ <b>Connection Cable and Keyboard Variations</b></li> <li>■ <b>Export Packages ImageControllerbasic, 1, 2, and 3</b></li> <li>■ <b>Available Language Dialogs ImageControllerbasic, 1, 2, and 3</b></li> <li>- Available Language Dialogs for All ImageController Software Versions</li> <li>- Available Languages Software / Machine Instructions</li> <li>- Operating System ImageController1, 2, and 3</li> </ul>  | p. 31 |
| <ul style="list-style-type: none"> <li>■ <b>EZset with ImageController2</b></li> <li>- EZset with ImageController2 Measurement Range</li> <li>- ImageController2 Hardware</li> </ul>  | p. 12 | <ul style="list-style-type: none"> <li>■ <b>Accessories Included Depending on Machine Variation (optional)</b></li> <li>- Table</li> <li>- Label Printer</li> <li>- Labels for Printing</li> <li>- Storage Board</li> <li>- Cleaning Putty</li> <li>- Data Transfer Directly to the CNC Machine for IC2 and IC3</li> <li>- Center Height Measuring Machine for IC2 and IC3</li> <li>- Maintenance Unit</li> <li>- Spindle Cover</li> <li>- Cover</li> <li>- Color Laser Printer A4 Format for IC2 and IC3</li> <li>- Printer Shelf for Color Laser Printer</li> <li>- Storage Board for Keyboard and Mouse</li> </ul>                 | p. 32 |
| <ul style="list-style-type: none"> <li>■ <b>ImageController2 Standard Functions</b></li> <li>- Measuring Z and X Value, Radius, and Angles</li> <li>- Concentricity and Axial Runout (Focus 360°)</li> <li>- EZmax – Measuring the Tool Contour</li> <li>- Distance Measuring in Z and X Directions</li> <li>- Meter Settings</li> <li>- Adapter Management</li> <li>- Zero Point Monitoring</li> <li>- Online Help</li> <li>- Language Selection</li> <li>- Data Output via Serial Interface RS232</li> <li>- EZnavigator – Compass Needle</li> <li>- Cutting Edge Inspection</li> <li>- Projector Function</li> <li>- Tool Management</li> <li>- EZstart</li> </ul>                               | p. 13 | <ul style="list-style-type: none"> <li>■ <b>Tool Holder Spindles</b></li> <li>- SK 50 Tool Holder Spindle (Standard)</li> <li>- SK 50 Vacuum Tool Holder Spindle (Option)</li> <li>- Universal Spindle for Power-Activated Tool Clamping (Option with IC1, IC2, IC3)</li> <li>- Autofocus for IC3 for SK 50, Vacuum and Universal Spindle</li> </ul>  | p. 33 |
| <ul style="list-style-type: none"> <li>■ <b>ImageController2 Optional Functions</b></li> <li>- List Printing Function</li> <li>- EZturn – Center Height Measuring Device</li> <li>- Control Technology Specific Data Output (DOP) to the CNC Machine</li> <li>- Machine Management (in DOP Scope of Delivery)</li> </ul>  | p. 14 | <ul style="list-style-type: none"> <li>■ <b>Adapter for SK 50 Tool Holder Spindle (optional)</b></li> <li>- SK 50 / Steep Taper SK Adapter</li> <li>- SK 50 / Hollow Shank Taper HSK Adapter</li> <li>- SK 50 / Hollow Shank Taper HSK Adapter</li> <li>- SK 50 / VDI Cylinder Shaft Adapter with</li> <li>- SK 50 / Capto Adapter</li> <li>- SK 50 Adapter DIN 69871/KM/UTS</li> </ul>   | p. 34 |
| <ul style="list-style-type: none"> <li>■ <b>EZset with ImageController3</b></li> <li>- EZset with ImageController3 Measurement Range</li> <li>- ImageController3 Hardware</li> </ul>  | p. 15 | <ul style="list-style-type: none"> <li>■ <b>Attachment Holder for Universal Spindle with Power Clamping</b></li> <li>- Attachment Holder Steep Taper SK</li> <li>- Attachment Holder Hollow Shank Taper HSK</li> </ul>  | p. 35 |
| <ul style="list-style-type: none"> <li>■ <b>ImageController3 Standard Functions</b></li> <li>- Measuring Z and X Value, Radius, and Angles</li> <li>- Concentricity and Axial Runout (Focus 360°)</li> <li>- EZmax – Measuring the Tool Contour</li> <li>- Distance Measuring in Z and X Directions</li> </ul>  | p. 16 | <ul style="list-style-type: none"> <li>■ <b>Installation Dimensions EZgo350/420/600 with ICbasic without Table</b></li> <li>■ <b>Installation Dimensions EZgo350/420/600 with ICbasic with Table</b></li> <li>■ <b>Installation Dimensions EZset350/420/600 with IC1</b></li> <li>■ <b>Installation Dimensions EZset350/420/600 with IC2</b></li> <li>■ <b>Installation Dimensions EZset350/420/600 with IC3</b></li> <li>■ <b>Packaging, Measuring Path Loss</b></li> <li>- Standard Packaging</li> <li>- Wooden Packaging</li> <li>- "Seaworthy" Packaging</li> <li>- Note: Measuring Path Loss</li> <li>- Accuracy Data</li> </ul> | p. 36 |
| <ul style="list-style-type: none"> <li>■ <b>Overview Page of All Data</b></li> </ul>  | p. 17 | <ul style="list-style-type: none"> <li>■ <b>EZset Sales Conditions (GTCs)</b></li> <li>■ <b>Notes</b></li> </ul>  | p. 37 |

# Overview of EZset Tool Presetters



## Standard Machine Components

- ISO 50 tool holder spindle <sup>1)</sup>
- Pneumatic slide clamping for X and Z axis
- Bellows cover to protect the measuring axes
- Cover to protect the individual machine components
- Membrane keypad to quickly activate power-activated functions of the tool holder spindle (360° spindle brake, 4 x 90° spindle indexing)
- Ergonomic one-hand control handle for simultaneously traveling the X and Z axis
- Heidenhain glass scale measuring systems<sup>2)</sup>
- THK recirculating ball bearing guides for X and Z axis <sup>3)</sup>
- Guide rails for the counterweight (Z axis)
- Bosch/Festo pneumatics <sup>4)</sup>
- High quality CCD or CMOS cameras depending on the tool presetter



\*Optional for ImageControllerbasic

# EZset Tool Presetters in Detail



EZset tool presetters are available with a variety of measurement ranges, and with the four image processing variations ICbasic, IC1, IC2, and IC3.

| EZset Variations | Measuring Range Z | Measuring Range X | Snap Gauge |
|------------------|-------------------|-------------------|------------|
| EZset350         | 350 mm            | 320 mm            | 0 mm       |
| EZset420         | 420 mm            | 420 mm            | 100 mm     |
| EZset600         | 600 mm            | 420 mm            | 100 mm     |
| EZset600/570     | 600 mm            | 570 mm            | 0 mm       |

| Color Name           | Color Samples |
|----------------------|---------------|
| RAL 3000 fire red    |               |
| RAL 7001 silver gray |               |
| RAL 7021 black gray  |               |

We reserve the right to make technical changes. Image may include options or accessory components.

## “EZclick”: ImageControllerbasic

Operate ICbasic image processing using the EZclick turn / push button. You can use EZclick to control the menus on the 7” monitor, select functions, and confirm them with the push of a button. Graphic symbols guide you in using the tool presetter.



## “EZpush”: ImageController1

Easily operate IC1 image processing through the EZtouch 13.3” touchscreen monitor. You can use a graphic menu to select all functions of the tool presetter quickly and easily and confirm them.



## “EZtouch”: ImageController2

Convenient and intuitive operation of the IC2 image processing through the EZtouch 13.3” touchscreen monitor. Graphic, self-explanatory functional buttons make it easy to quickly complete standard measuring tasks.

Option: 24” touchscreen



## “EZslide”: ImageController3

Modern, user-friendly and individually configurable IC3 image processing through EZslide 17” touchscreen operation: The innovative user interface can be adjusted to each user's needs through touch and slide functions.



# EZgo with ImageControllerbasic



Table only available with measuring range 350

## Measuring Ranges EZgo with ImageControllerbasic

| EZgo with ICbasic | Measuring Range Z | Measuring Range X | Snap Gauge |
|-------------------|-------------------|-------------------|------------|
| EZgo350           | 350 mm            | 320 mm            | 0 mm       |
| EZgo420           | 420 mm            | 420 mm            | 100 mm     |
| EZgo600           | 600 mm            | 420 mm            | 100 mm     |

## ImageControllerbasic Hardware and Software

### Hardware

- DFT LCD 7" color monitor with "EZclick" operation
- Display precision of the image processing: 1  $\mu$ m
- ARM 9315 high power processor with Linux operating system, 32 MB RAM and 16 MB flash
- CCD camera system with telecentric lens, visible field of view approx. 7 x 7 mm
- 1 x USB 2.0 interface for quick data output
- COM/serial port – data output via the RS232 interface

### Software

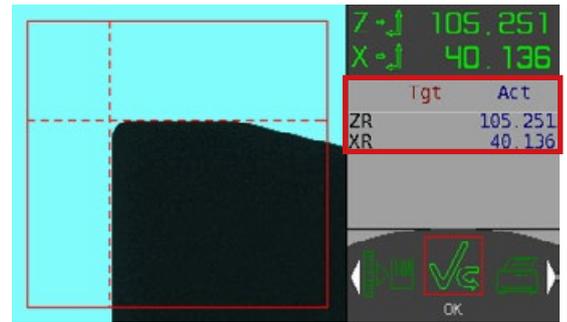
- Dynamic crosshairs for quick measurements without fine setting
- Number of cutting edge forms: 104
- Quickly measure, preset, and inspect tool length and diameter
- EZmax software function to determine and measure the tool contour
- Zero point monitoring – Safety inquiry for adapter zero point to prevent machine crashes
- Adapter management to save and manage 99 adapter zero points
- Integrated online help



# ImageControllerbasic Standard Functions

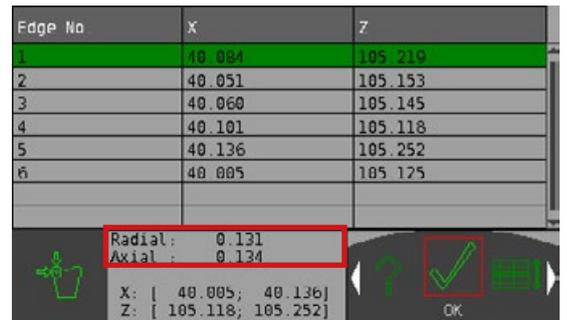
## Measuring Z and X Values

- Fast and user-independent measurement of Z and X dimensions.



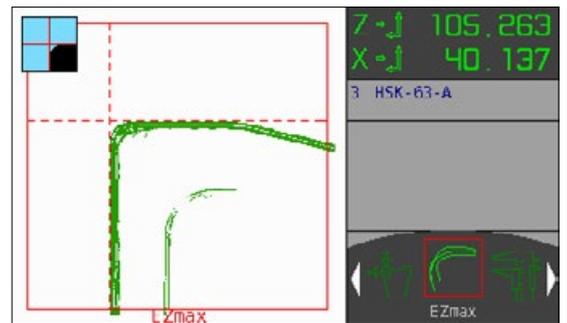
## Concentricity (X Axis) and Axial Runout (Z Axis)

- All measured cutting edges are displayed in a table of measuring results. At the same time, the concentricity and axial runout are determined from the difference between the highest and lowest values.



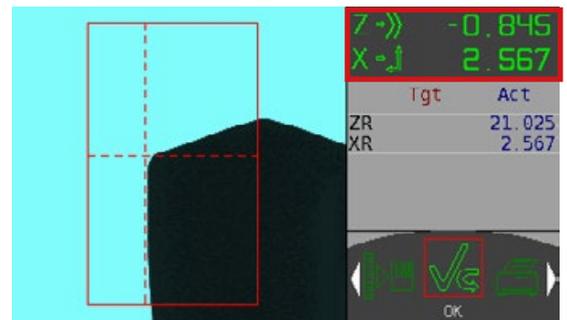
## EZmax - Measuring the Tool Contour

- EZmax - Software function to determine and measure the tool contour of multi-insert cutter tools.



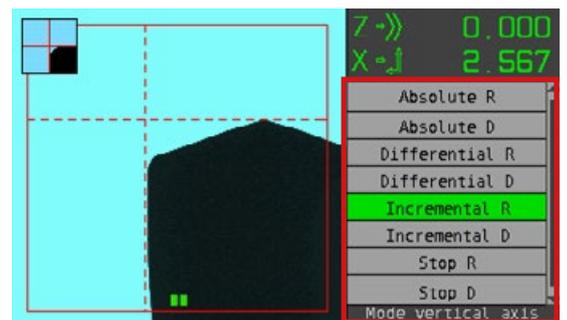
## Distance Measuring in Z and X Directions

- Measuring of individual distances along the cutting tool edge in the Z and X direction.



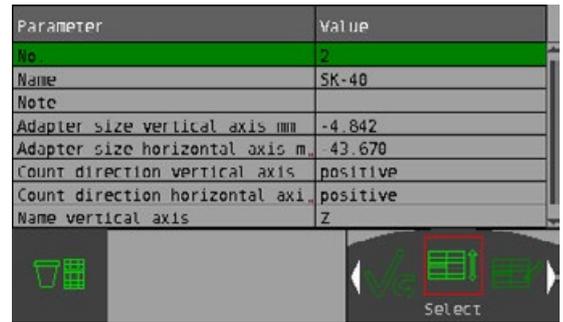
## Meter Settings

- Quickly switch individual meters to the following parameters:
  - Radius
  - Diameter
  - Absolute measurement
  - Differential measurement
  - Chain dimension
  - Meter stop



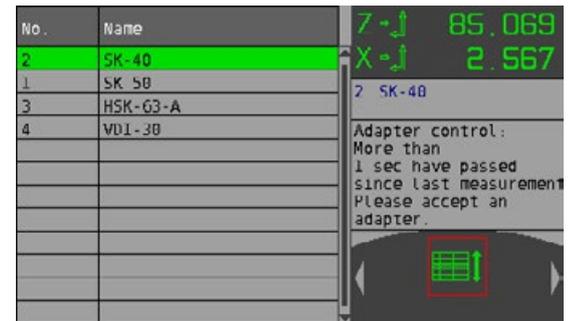
## Adapter Management

- Adapter system and management for up to 99 adapters with zero points.



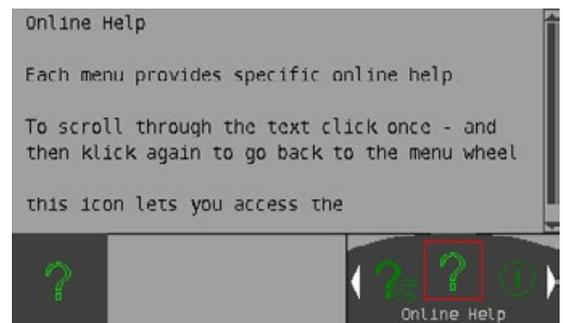
## Zero Point Monitoring

- Automatic adapter zero point inquiry after exceeding an adjustable time interval.



## Online Help

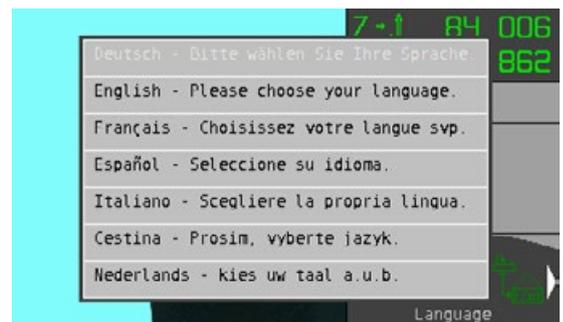
- In addition to the operating instructions, each machine is equipped with integrated online help in various languages.



## Language Selection

- Standard languages:  
German, English, French, Spanish, Italian, Czech, Dutch  
(for further language dialogs, see page 38).

Other languages are available upon request.  
These languages can be licensed individually.



## Data Output via RS232 Serial Interface

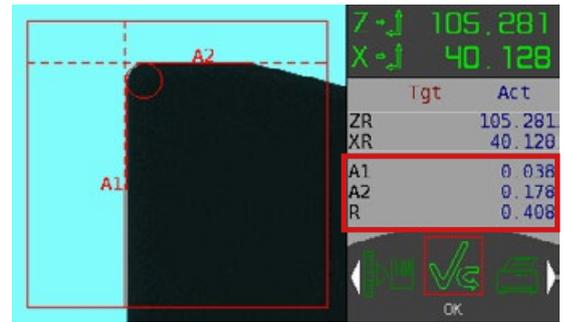
- Data is output via the RS232 serial interface in ASCII format  
(for detailed information, see page 35).



## Adding Radius and Angle to Measured Values

- Adding measured value in the area of the radius (one measured value) and angle measurement (two measured values) on the cutting tool edge in addition to the Z and X value.

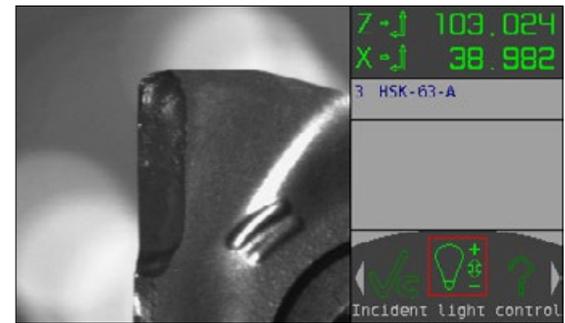
Item Designation: ICBSW-Pack1



## Cutting Edge Inspection

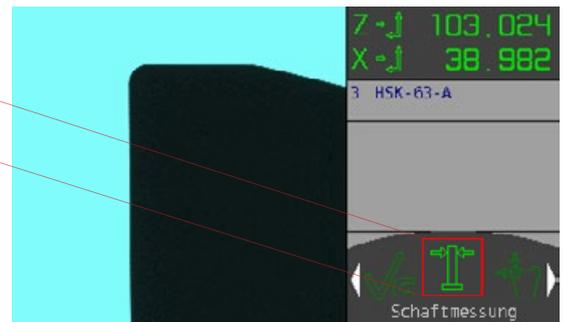
- Cutting edge inspection: 12x zoom on the cutting edge in incident light for quality control and wear recognition.
- Lighting control for the 12 incident light LEDs through a rotary control.

Item Designation: ICBINSPECT



## Additional Measuring Programs

- Inspection of concentricity on the tool shank
- Angle measurement including theoretic tip
- Radius measurement using measuring points
- Specification measurement (EZmax over 1.4.3)
- Projector mode (fixed crosshairs)

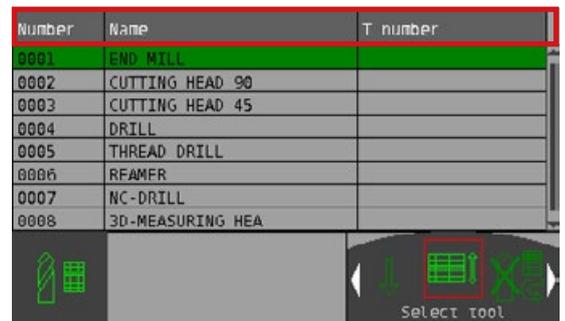


Item Designation: ICBSW-Pack2

## Tool Management

- Tool management for at least 1,000 complete tools including ID number, designation, T number, and input option for target measurements for Z, X, radius, and two angles with integrated compass function.

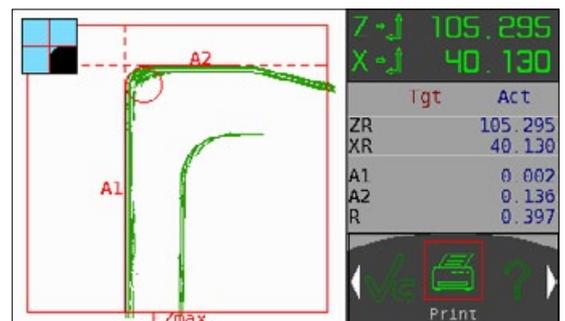
Item Designation: ICBSW TOOLS



## Label printer

- Printing thermo labels (software function only delivered in connection with the EZPRINT label printer).

Item Designation: ICBPRINT-SW



# EZset with ImageController1



Table only available with measuring range 350



## EZset with ImageController1 Measurement Range

| EZset with IC1 | Measuring Range Z | Measuring Range X | Snap Gauge |
|----------------|-------------------|-------------------|------------|
| EZset350       | 350 mm            | 320 mm            | 0 mm       |
| EZset420       | 420 mm            | 420 mm            | 100 mm     |
| EZset600       | 600 mm            | 420 mm            | 100 mm     |
| EZset600/ 570  | 600 mm            | 570 mm            | 0 mm       |

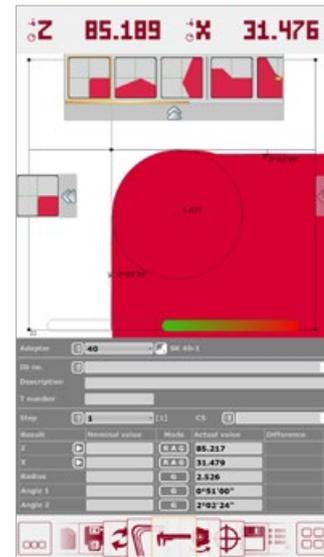
## ImageController1 Hardware

- Operating system: Windows 10 64-bit multilingual
- Permitted for ambient temperatures up to 50 °C
- Manufactured according to CE regulations (Europe) and FCC class B (USA)
- Fast and shock-resistant solid state disk (SSD)
- “One-button” data backup for each backup on a USB storage device
- Dimensions: approx. 30 x 18 cm (13” visible screen diagonal)
- Screen type: Widescreen flat-panel display (16:9)
- Maximum viewing angle: 178° vertical / 175° horizontal
- Screen type and surface: Hard coating (3H), anti-glare
- Optimal resolution: 1,920 x 1,080 pixels at 60 Hz
- Contrast ratio: 1000:1 (standard)
- Brightness: 350 cd/m2 (standard)
- Response time: 5 ms
- Color support: 16.7 million colors
- Background lighting: LED
- Temperature during operation 0 to 50 °C (32 to 122 °F)
- Temperature when not operating, during storage and shipping: -20 to 60 °C (-4 to 140 °F)
- Humidity during operation: 10 to 80 % (non-condensing)
- Humidity when not operating, during storage and shipping: 5 to 90 % (non-condensing)
- Required voltage: 24 VDC max. 65 W
- Network card



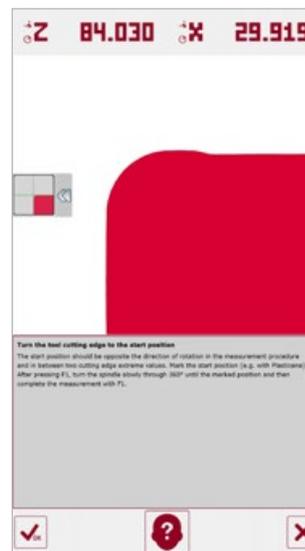
## Measuring Z and X Values, Radius, and Angles

- Fast and user-independent measuring of the Z and X dimensions, as well as the radius and two angles, including automatic cutting edge recognition.
- Radius and angles are displayed live.

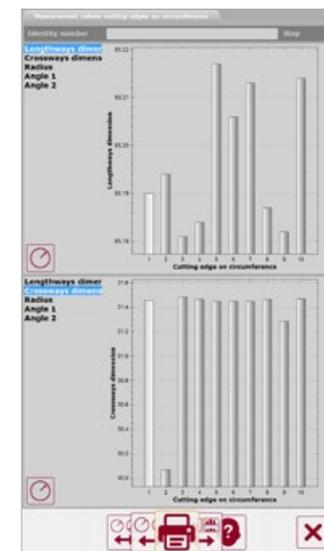


## Concentricity and Axial Runout (Focus 360°)

- Measuring the concentricity (X axis) and axial runout (Z axis) on the cutting tool edge (image 1), including display of the list of measuring results as a bar chart (image 2).



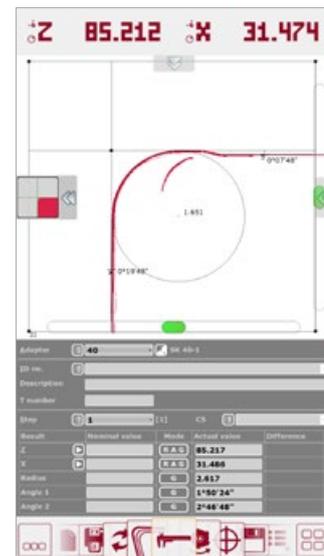
(Image 1)



(Image 2)

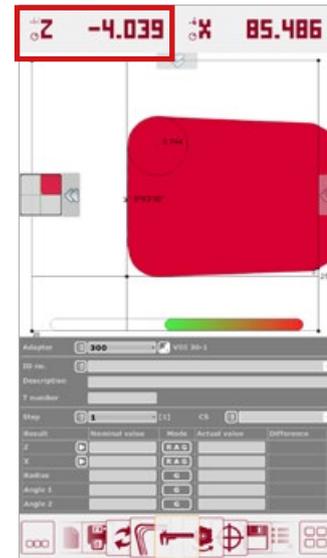
## EZmax – Measuring the Tool Contour

- EZmax – Software function to determine and measure the tool contour of multi-insert cutter tools.
- Target values and tolerances can be saved. Differences are highlighted in color: red (out of tolerance), green (within tolerance).



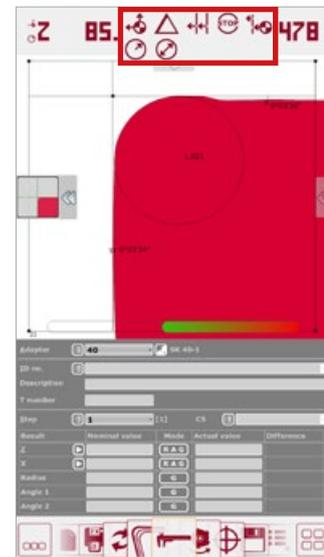
## Distance Measuring in Z and X Directions

- Measuring of individual distances along the cutting tool edge in the Z and X direction.



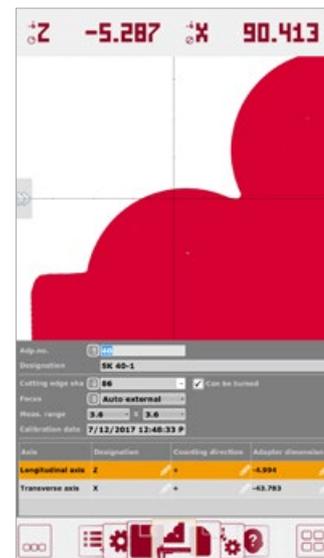
## Meter Settings

- Quickly switch individual meters to the following parameters:
  - Radius
  - Diameter
  - Absolute measurement
  - Differential measurement
  - Chain dimension
  - Meter stop



## Adapter Management

- Adapter system and management for up to 99 adapters with zero points.



# ImageController1 Standard Functions

## Zero Point Monitoring

- Automatic adapter zero point inquiry after exceeding an adjustable time interval.
- Automatic note of new calibration if the time interval is exceeded. Time intervals are adjustable.
- Precise, clear overview display of the last calibration (date and time).

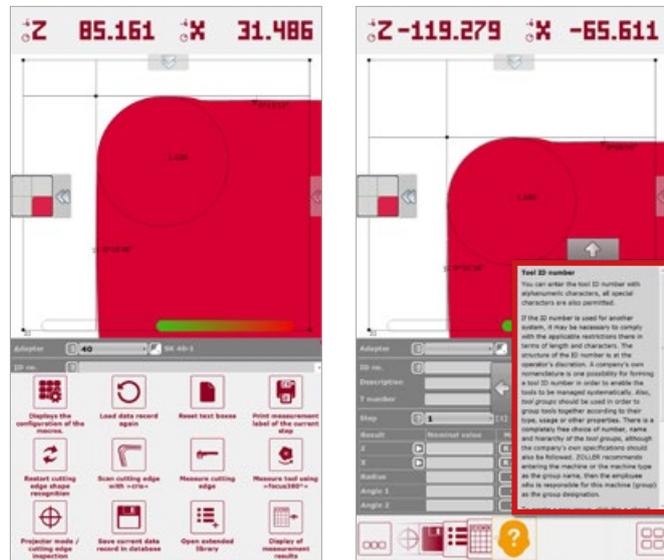
Adapter data overview

Data record: 3 (12) [Filter active] Test for last filtering

| Adp.-nr. | Designation | Z-akt.  | X-akt.  | Completion            |
|----------|-------------|---------|---------|-----------------------|
| 1        | SK 90       | -5.261  | -50.218 | 7/11/2017 2:09:18 PM  |
| 30       | SK 30       | -4.849  | -43.956 | 7/12/2017 1:24:08 PM  |
| 40       | SK 40-1     | -4.804  | -43.783 | 7/12/2017 1:40:33 PM  |
| 250      | V02 25      | -5.654  | -23.640 | 7/12/2017 1:37:24 PM  |
| 300      | V02 30-1    | -8.279  | -28.263 | 7/12/2017 12:08:32 PM |
| 400      | V02 40      | -5.136  | -30.259 | 7/12/2017 1:40:47 PM  |
| 500      | V02 50      | -5.183  | -35.228 | 7/12/2017 1:38:20 PM  |
| 630      | HK 63er-1   | -5.655  | -51.277 | 7/12/2017 12:07:43 PM |
| 631      | HK 63-1     | -4.931  | -30.159 | 7/12/2017 1:42:08 PM  |
| 3000     | Capte C3ex  | -79.883 | -53.975 | 7/12/2017 1:38:43 PM  |
| 5000     | Capte C5ex  | -51.514 | -25.163 | 7/12/2017 3:30:38 PM  |
| 6000     | Capte C6ex  | -42.233 | -41.178 | 7/12/2017 1:41:40 PM  |

## Online Help

- In addition to the operating instructions, each machine is equipped with integrated online help in various languages.



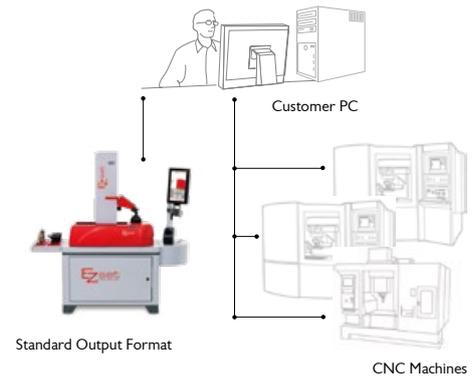
## Language Selection

- Standard languages:  
German and English (for other language dialogs, see page 38).



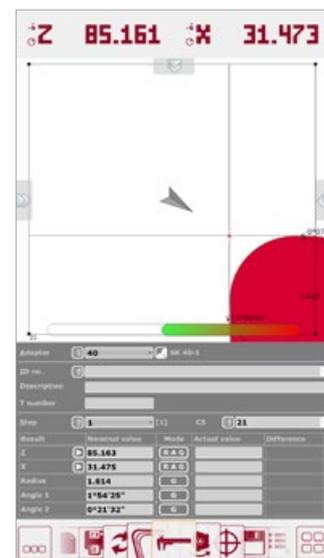
## Data Output via Serial Interface RS232

- Data is output via the serial interface RS232 in ASCII format (for detailed information, see page 35).



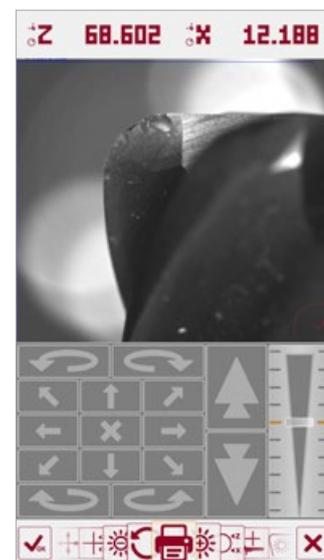
## EZnavigator Compass Needle

- EZnavigator compass needle – Navigation aid for positioning the camera on the indicated tool target values.



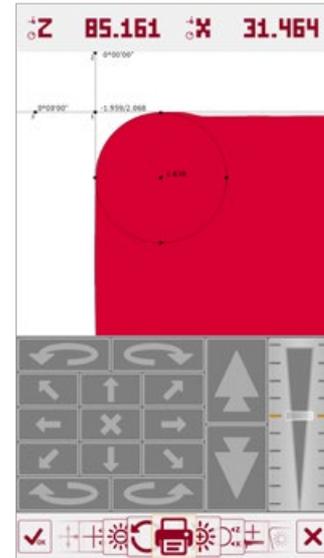
## Cutting Edge Inspection

- 20x zoom on the cutting edge in incident light for quality control and wear recognition.
- Lighting control for the 12 incident light LEDs through touch control.
- Print function for a PDF output of the camera image (ImageController software version 1.15.12 and above).



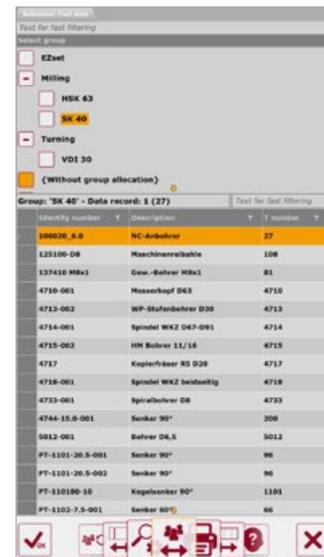
## Projector Function

- Switch over to projector function with movable crosshair pointer.



## Tool Management

- Tool management for at least 3,000 complete tools including ID number, designation, T number, and input option for target measurements for Z, X, radius, and two angles, including tolerances.
- Tools can be freely managed in groups or subgroups.

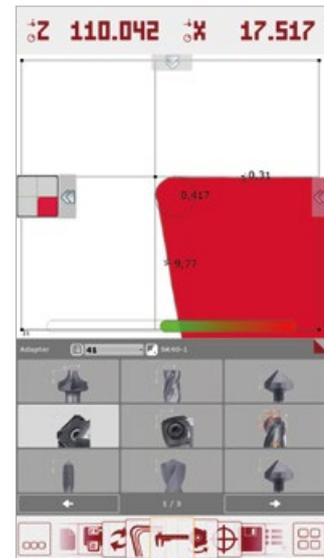


## EZstart

- Fast and user-independent measuring of multiple parameters on various tool types. 19 tool types available for selection (image 1).
- Graphic menu for selecting the tool type.
- After the tool type is selected, the tool-specific measurement is carried out and the measuring result is output (image 2).
- Measuring functions, see page 30.



(Image 1)



(Image 2)

## List Printing Function

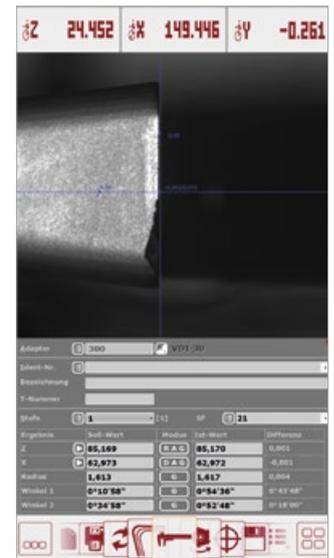
- Function to print tool lists, cutting edge inspection images, lists of measuring results.
- Printer output via a local list printer, network printer, or as a PDF file.



## EZturn – Center Height Measuring Device

- Center height measuring with monochrome CMOS camera system.
- 20x zoom on the cutting tool edge in incident light.
- Determination of the center height eccentricity (tip height) via the projector function.
- Measuring range  $\pm 3$  mm.

**Item Designation: EZTURN**



# EZset with ImageController2



Image with optional 24" Panel-PC

## EZset with ImageController2 Measurement Range

| EZset with IC2 | Measuring Range Z | Measuring Range X | Snap Gauge |
|----------------|-------------------|-------------------|------------|
| EZset350       | 350 mm            | 320 mm            | 0 mm       |
| EZset420       | 420 mm            | 420 mm            | 100 mm     |
| EZset600       | 600 mm            | 420 mm            | 100 mm     |
| EZset600/570   | 600 mm            | 570 mm            | 0 mm       |

## ImageController2 Hardware

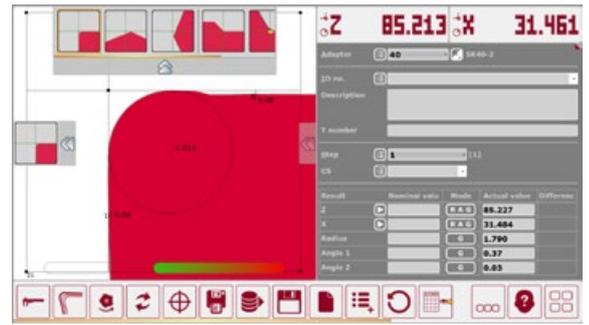
- Operating system: Windows 10 64-bit multilingual
- Permitted for ambient temperatures up to 50 °C
- Manufactured according to CE regulations (Europe) and FCC class B (USA)
- Fast and shock-resistant solid state disk (SSD)
- "One-button" data backup for each backup on a USB storage device
- Dimensions: approx. 30 x 18 cm (13" visible screen diagonal) or approx. 58x36 cm (24" visible screen diagonal)
- Screen type: Widescreen flat-panel display (16:9)
- Maximum viewing angle: 178° vertical / 175° horizontal
- Screen type and surface: Hard coating (3H), anti-glare
- Optimal resolution: 1,920 x 1,080 pixels at 60 Hz
- Contrast ratio: 1000:1 (standard)
- Brightness: 350 cd/m<sup>2</sup> (standard)
- Response time: 5 ms
- Color support: 16.7 million colors
- Background lighting: LED
- Temperature during operation 0 to 50 °C (32 to 122 °F)
- Temperature when not operating, during storage and shipping: -20 to 60 °C (-4 to 140 °F)
- Humidity during operation: 10 to 80 % (non-condensing)
- Humidity when not operating, during storage and shipping: 5 to 90 % (non-condensing)
- Required voltage: 24 VDC max. 65 W
- Network card



# ImageController2 Standard Functions

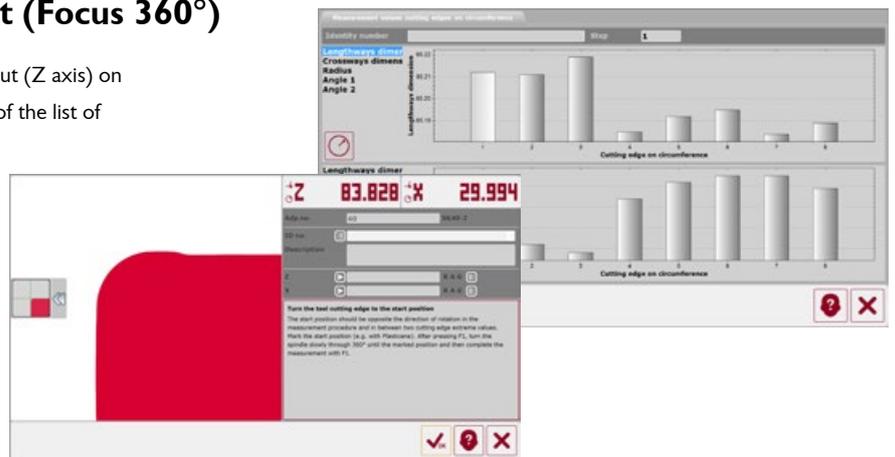
## Measuring Z and X Values, Radius, and Angles

- Fast and user-independent measuring of the Z and X dimensions, as well as the radius and two angles, including automatic cutting edge recognition.
- Radius and angles are displayed live.



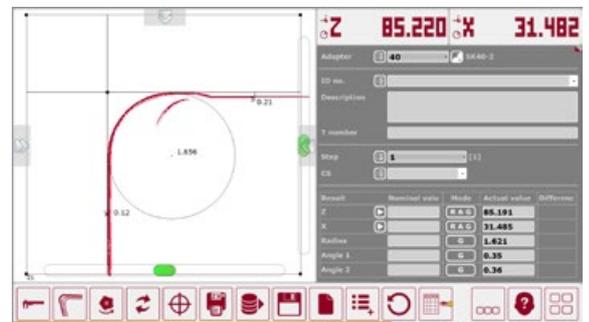
## Concentricity and Axial Runout (Focus 360°)

- Measuring the concentricity (X axis) and axial runout (Z axis) on the cutting tool edge (left image), including display of the list of measuring results as a bar chart (right image).



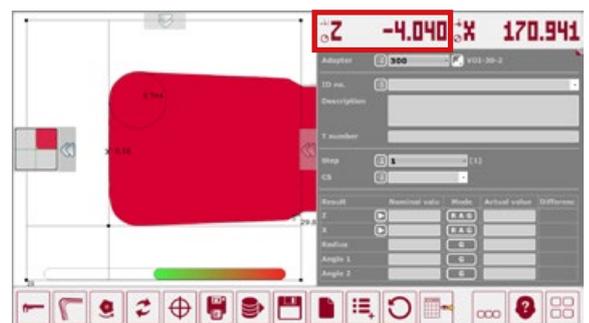
## EZmax – Measuring the Tool Contour

- EZmax – Software function to determine and measure the tool contour of multi-insert cutter tools.
- Target values and tolerances can be saved. Differences are highlighted in color: red (out of tolerance), green (within tolerance).



## Distance Measuring in Z and X Directions

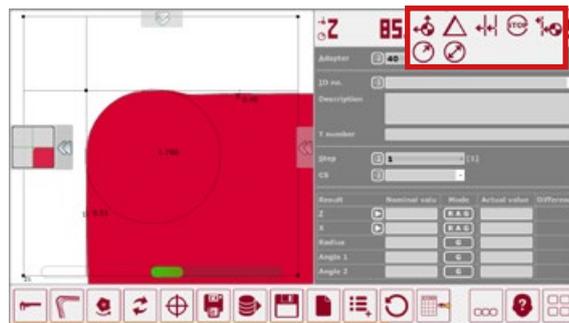
- Measuring of individual distances along the cutting tool edge in the Z and X direction.



## Meter Settings

- Quickly switch individual meters to the following parameters:

- Radius
- Diameter
- Absolute measurement
- Differential measurement
- Chain dimension
- Meter stop



## Adapter Management

- Adapter system and management for up to 99 adapters with zero points.



## Zero Point Monitoring

- Automatic adapter zero point inquiry after exceeding an adjustable time interval.
- Automatic note of new calibration if the time interval is exceeded. Time intervals are adjustable.
- Precise, clear overview display of the last calibration (date and time).

Please select the adapter:

Data record: 3 (13) [Filter active] Text for fast filtering

| Adapter no. | Description | Remark                              | Z-dim.  | X-dim.  | Calibration           |
|-------------|-------------|-------------------------------------|---------|---------|-----------------------|
| 1           | HKS SK50    | Vorzerhalter SK30 Adapter SK50/SK30 | -5.261  | -60.218 | 5/22/2017 15:30:39 AM |
| 30          | SK 30       |                                     | -4.949  | -43.556 | 10/19/2016 2:28:14 PM |
| 40          | SK40-2      |                                     | -4.994  | -43.783 | 6/28/2017 11:04:33 AM |
| 250         | VDE-25      |                                     | -5.014  | -32.640 | 10/19/2016 2:27:06 PM |
| 300         | VDE-30-2    |                                     | -48.379 | -25.263 | 6/27/2017 11:13:46 AM |
| 400         | VDE-40-2    |                                     | -5.136  | -30.358 | 10/19/2016 2:28:23 PM |
| 500         | VDE-50      |                                     | -5.183  | -35.228 | 10/19/2016 2:27:49 PM |
| 630         | HSK-63ex-2  |                                     | -6.655  | -81.277 | 3/28/2017 2:03:19 PM  |
| 631         | HSK-63-2    |                                     | -4.931  | -30.159 | 11/16/2016 3:00:51 PM |
| 801         | HSK 80      |                                     | -4.970  | -45.188 | 10/19/2016 2:31:07 PM |
| 5000        | Capto C5ex  |                                     | -79.983 | -53.975 | 9/28/2016 3:34:41 PM  |
| 5000        | Capto C5ex  |                                     | -51.114 | -35.163 | 3/26/15 3:36:03 PM    |

## Online Help

- In addition to the operating instructions, each machine is equipped with integrated online help in various languages.



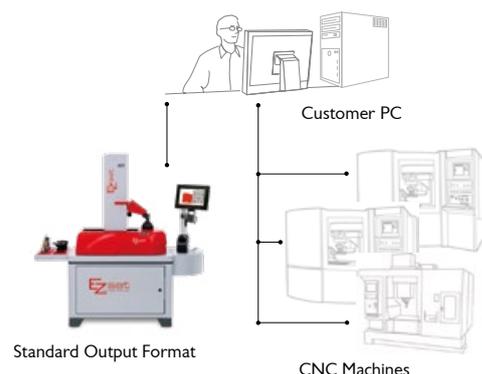
## Language Selection

- Standard languages:  
German and English (for other language dialogs, see page 38).



## Data Output via RS232 Serial Interface

- Data is output via the RS232 serial interface in ASCII format (for detailed information, see page 35).



## EZnavigator - Compass Needle

- EZnavigator compass needle – Navigation aid for positioning the camera on the indicated tool target values.



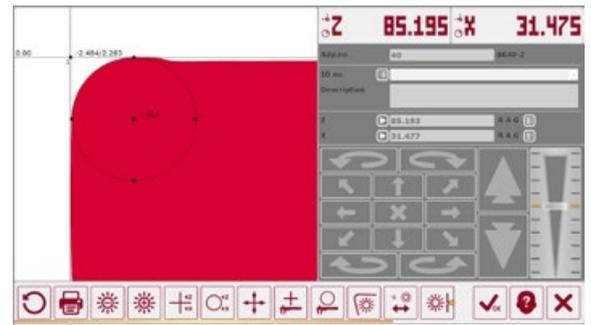
## Cutting Edge Inspection

- 20x zoom on the cutting edge in incident light for quality control and wear recognition.
- Lighting control for the 12 incident light LEDs through touch control.
- Print function for a PDF output of the camera image (above ImageController software version 1.15.12).



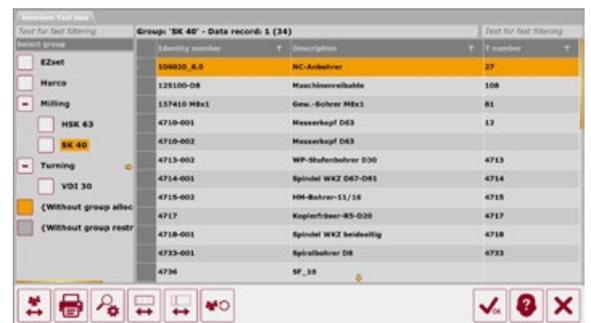
## Projector Function

- Switch to projector function with movable crosshair pointer.



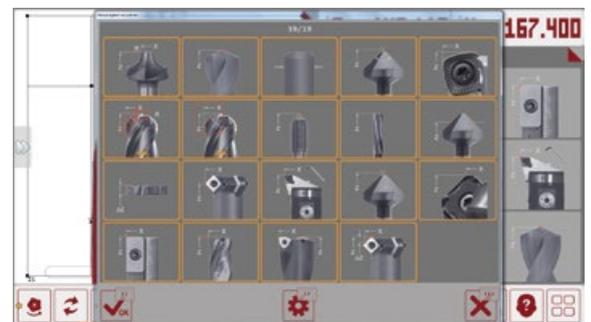
## Tool Management

- Tool management for at least 3,000 complete tools including ID number, designation, T number, and input option for target measurements for Z, X, radius, and two angles with integrated compass function.
- Tools can be freely managed in groups or subgroups.



## EZstart

- Fast and user-independent measuring of multiple parameters on various tool types. 19 tool types available for selection (image 1).
- Graphic menu for selecting the tool type.
- After the tool type is selected, the tool-specific measurement is carried out and the measuring result is output (image 2).
- Measuring functions see page 30.



(Image 1)

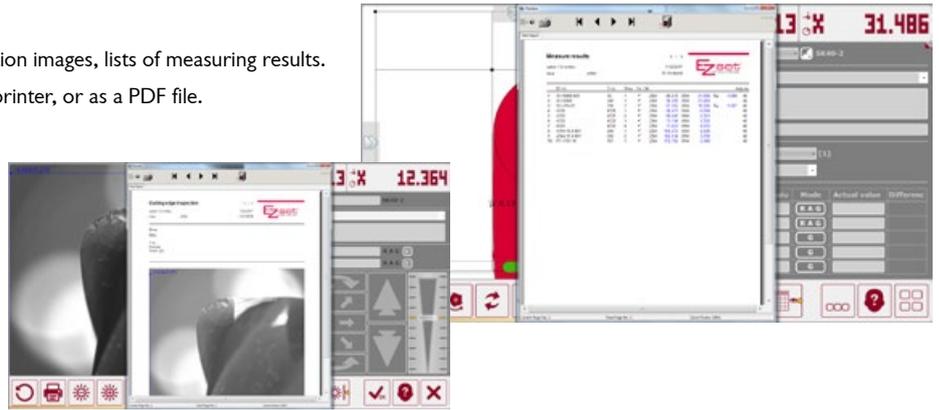


(Image 2)

# ImageController2 Optional Functions

## List Printing Function

- Function to print tool lists, cutting edge inspection images, lists of measuring results.
- Printer output via a local list printer, network printer, or as a PDF file.



## EZturn – Center Height Measuring Device

- Center height measuring with monochrome CMOS camera system.
- 20x zoom on the cutting tool edge in incident light.
- Determination of the center height eccentricity (tip height) via the projector function.
- Measuring range  $\pm 3$  mm.

Item Designation: EZTURN



## Control Technology Specific Data Output (DOP) to the CNC Machine

- Control technology specific data output to the CNC machine through the customer network or USB.
- Output formats for all current machine controllers upon request.

Item Designation: DOP



## Machine Management (in DOP Scope of Delivery)

- To map the machine park for control technology specific data output to the CNC machine.



# EZset with ImageController3



## EZset with ImageController3 Measurement Range

| EZset with IC3 | Measuring Range Z | Measuring Range X | Snap Gauge |
|----------------|-------------------|-------------------|------------|
| EZset350       | 350 mm            | 320 mm            | 0 mm       |
| EZset420       | 420 mm            | 420 mm            | 100 mm     |
| EZset600       | 600 mm            | 420 mm            | 100 mm     |
| EZset600/570   | 600 mm            | 570 mm            | 0 mm       |

## ImageController3 Hardware

- Operating system: Windows 10 64-bit multilingual
- Permitted for ambient temperatures up to 50 °C
- Manufactured according to CE regulations (Europe) and FCC class B (USA)
- Fast and shock-resistant solid state disk (SSD)
- “One-button” data backup for each backup on a USB storage device
- Dimensions: approx. 33 x 27 cm (17” visible screen diagonal)
- Screen type: Widescreen flat-panel display (4:3)
- Maximum viewing angle: 178° vertical / 175° horizontal
- Screen type and surface: Hard coating (3H), anti-glare
- Optimal resolution: 1,280 x 1,024 pixels at 60 Hz
- Contrast ratio: 1000:1 (standard)
- Brightness: 350 cd/m2 (standard)
- Response time: 5 ms
- Color support: 16.7 million colors
- Background lighting: LED
- Temperature during operation 0 to 50 °C (32 to 122 °F)
- Temperature when not operating, during storage and shipping: -20 to 60 °C (-4 to 140 °F)
- Humidity during operation: 10 to 80 % (non-condensing)
- Humidity when not operating, during storage and shipping: 5 to 90 % (non-condensing)
- Required voltage: 24 VDC max. 65 W
- Network card



## Measuring Z and X Values, Radius, and Angles

- Fast and user-independent measuring of the Z and X dimensions, as well as the radius and two angles, including automatic cutting edge recognition.
- Radius and angles are displayed live.



## Concentricity and Axial Runout (Focus 360°)

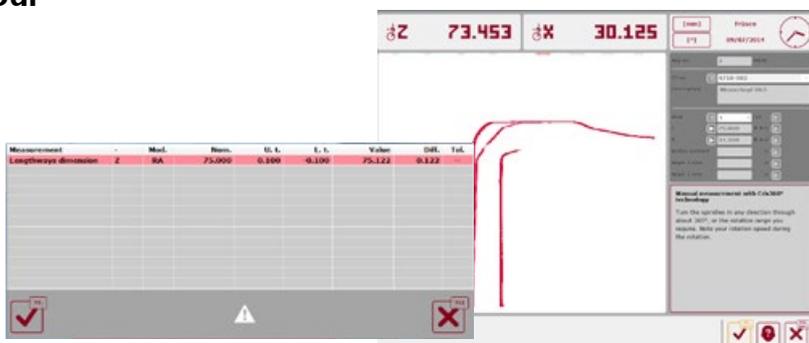
- Measuring the concentricity (X axis) and axial runout (Z axis) on the cutting tool edge (left image), including display of the list of measuring results as a bar chart (right image).

| Messung    | Wert   | Dif.  |
|------------|--------|-------|
| Längsmaß Z | 75,034 | 0,034 |
| Quermaß X  | 31,514 | 0,014 |
| Radius     | 0,775  |       |
| Winkel 1   | 0,70   |       |
| Winkel 2   | 12,24  |       |
| Rundlauf   | 0,063  | 0,063 |
| Planlauf   | 0,031  | 0,031 |



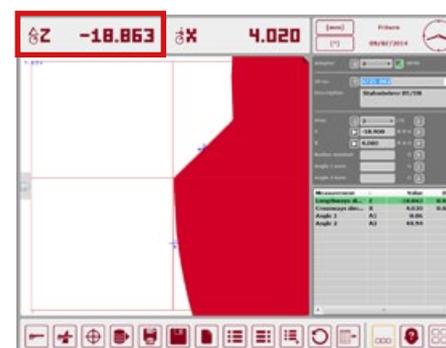
## EZmax – Measuring the Tool Contour

- EZmax – Software function to determine and measure the tool contour of multi-insert cutter tools.
- Target values and tolerances can be saved. Differences are highlighted in color: Red (outside of tolerance), green (within tolerance).



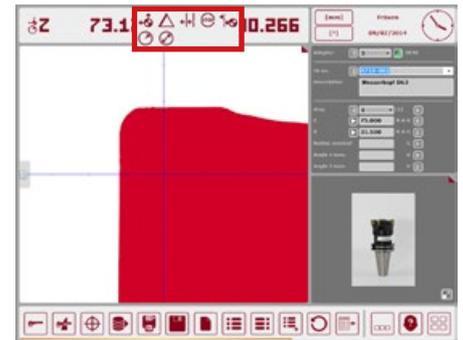
## Distance Measuring in Z and X Directions

- Measuring of individual distances along the cutting tool edge in the Z and X direction.



## Meter Settings

- Quickly switch individual meters to the following parameters:
  - Radius
  - Diameter
  - Absolute measurement
  - Differential measurement
  - Chain dimension
  - Meter stop



## Adapter Management

- Adapter system and management for up to 999 adapters with zero points.



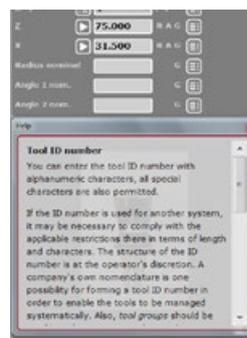
## Zero Point Monitoring / Real Time Monitoring

- Automatic adapter zero point inquiry after exceeding an adjustable time interval.
- Automatic note of new calibration if the time interval is exceeded. Time intervals are adjustable.
- Precise, clear overview display of the last calibration (date and time).



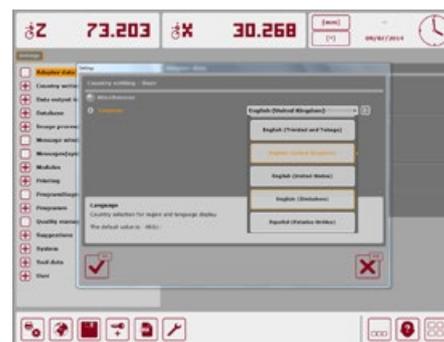
## Online Help

- In addition to the operating instructions, each machine is equipped with integrated online help in various languages.



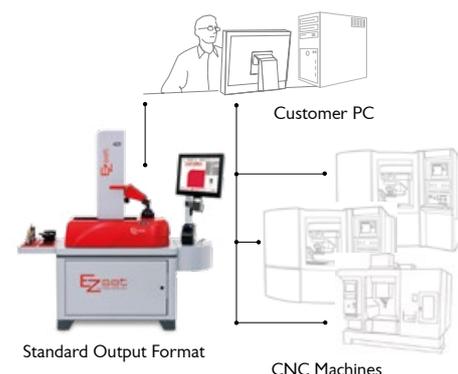
## Language Selection

- Standard languages:  
German and English (for further language dialogs, see page 38).



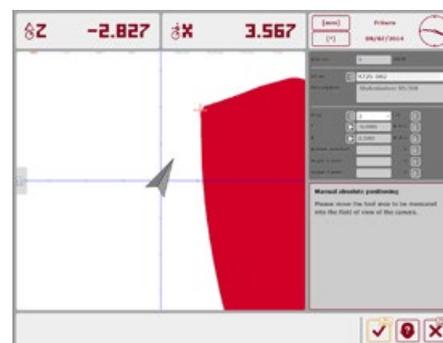
## Data Output via Serial Interface RS232

- Data is output via the serial interface RS232 in ASCII format  
(for detailed information, see page 35).



## EZnavigator – Compass Needle

- EZnavigator compass needle – Navigation aid for positioning the camera on the indicated tool target values.



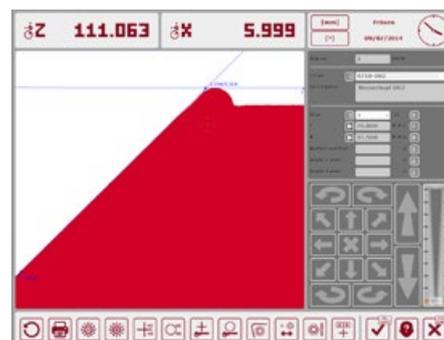
## Cutting Edge Inspection

- 28x zoom on the cutting edge in incident light for quality control and wear recognition.
- Lighting control for the 12 incident light LEDs through touch control.
- Print function for a PDF output of the camera image (ImageController software version 1.15.12 and above).



## Projector Function

- Switch to projector function with movable crosshair pointer.



## Additional Measuring Programs

- Specification measurement MP0
- Radius measurement MP28
- Angle measurement including theoretic tip MP
- Angle measurement including theoretic tip using measuring points MP
- Side milling cutter width/center MP87
- Measuring program DME MP600 (only with EZturn option)



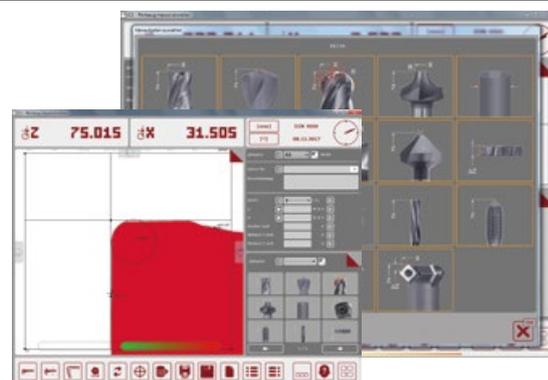
## Tool Management

- Tool management for at least 15,000 complete tools including ID number, designation, T number, and input option for target measurements for Z, X, radius, and two angles with tolerances.
- Tools can be freely managed in groups and subgroups.
- Clear and systematic graphic management of individual components.



## EZstart

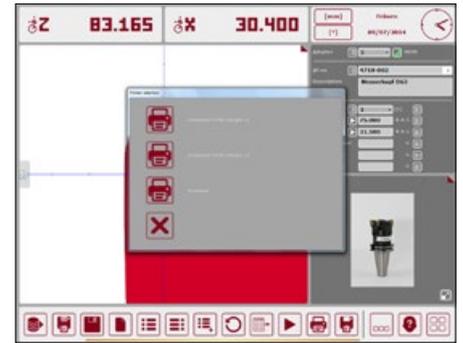
- Fast and user-independent measuring of multiple parameters on various tool types. 19 tool types available for selection (image 1).
- Graphic menu for selecting the tool type.
- After the tool type is selected, the tool-specific measurement is carried out and the measuring result is output.
- Measuring functions, see page 30



# ImageController3 Standard Functions

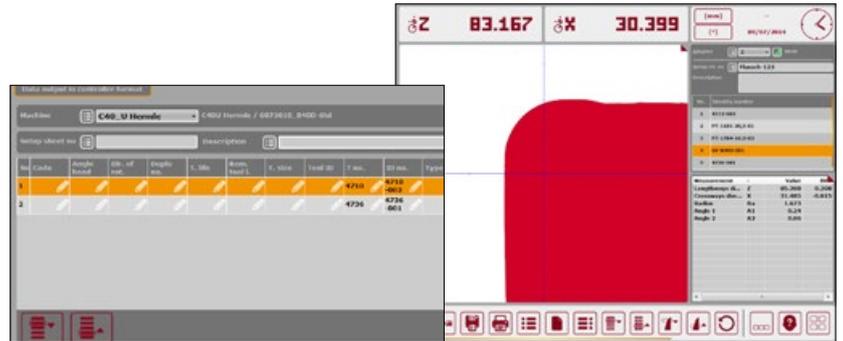
## List Printing Function

- Function to print tool lists, cutting edge inspection images, lists of measuring results.
- Printer output via a local list printer, network printer, or as a PDF file.



## Manage / Measure Tooling Sheets (in Scope of Delivery of DOP)

- Tooling sheet management to create and save tool lists.

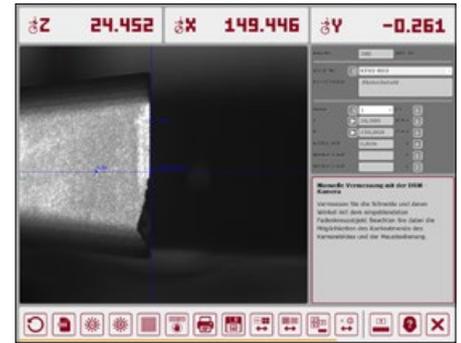


# ImageController3 Optional Functions

## EZturn – Center Height Measuring Device

- Center height measuring with monochrome camera.
- 28x zoom on the cutting tool edge in incident light.
- Determination of the center height eccentricity (tip height) via the projector function.
- Measuring range  $\pm 3$  mm.

Item Designation: EZturn



## Control Technology Specific Data Output (DOP) to the CNC Machine

- Control technology specific data output to the CNC machine through the customer network or USB.
- Output formats for all current machine controllers upon request.

Item Designation: DOP



## Machine Management (in DOP Scope of Delivery)

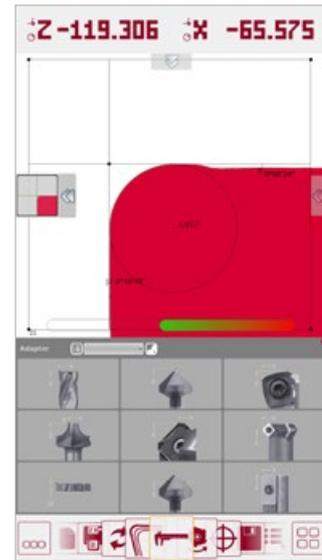
- To map the machine park for control technology specific data output to the CNC machine.



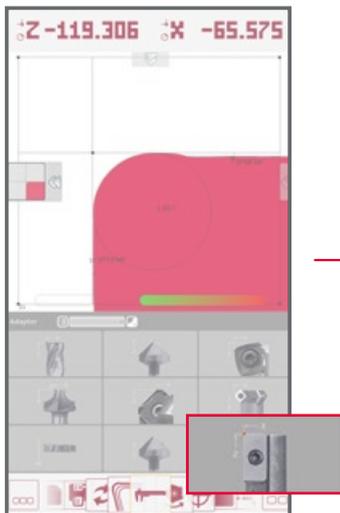
# EZstart for ImageController1, 2, and 3

## EZstart – Process Description

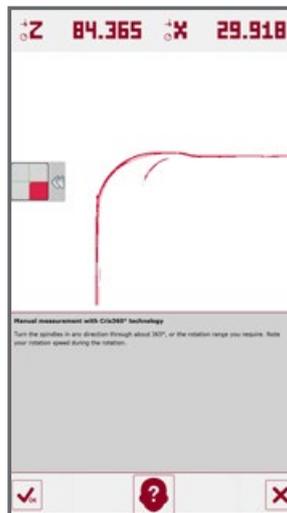
EZstart makes measuring tools easier than ever before! Simply select the correct tool from the menu and follow the measurement tasks stored for that specific tool. With EZstart, you can complete user-independent measurements of standard tools easily and quickly. EZstart is available standard for ImageController1 and above.



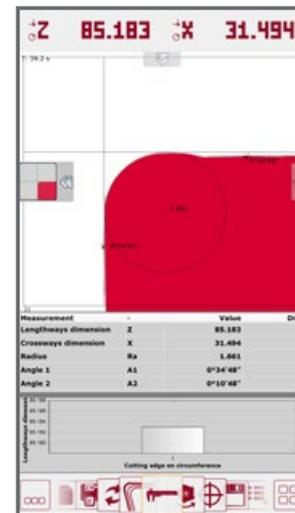
**1** Insert tools into the tool presetter



**1** Select the correct tool type



**2** Tool-specific measuring process launches



**3** Up to 5 measuring results can be determined with EZstart (Z, X, radius, angle 1, angle 2)

## EZstart - 19 Tool Types

### ■ Tool type: End mill

- Measuring process: EZmax
- Cutting edge form: SF 21
- Measured values: Longitudinal measurement/  
lateral measurement/radius



### ■ Tool type: Cutter head 90°

- Measuring process: EZmax
- Cutting edge form: SF 21
- Measured values: Longitudinal measurement/  
lateral measurement/radius



### ■ Tool type: Cutter head 45°

- Measuring process: EZmax
- Cutting edge form: SF 71
- Measured values: Longitudinal  
measurement/lateral measurement



### ■ Tool type: Spindle tool

- Measuring process: Setting
- Cutting edge form: SF 21
- Measured values: Longitudinal measurement/  
lateral measurement/radius



### ■ Tool type: Drill

- Measuring process: Measuring
- Cutting edge form: SF 5
- Measured values: Longitudinal measurement



### ■ Tool type: Tap drill

- Measuring process: Measuring
- Cutting edge form: SF 5
- Measured values: Longitudinal measurement



### ■ Tool type: Reamer

- Measuring process: Measuring
- Cutting edge form: SF 5
- Measured values: Longitudinal measurement



### ■ Tool type: Theoretic tip

- Measuring process: EZmax
- Cutting edge form: SF 4
- Measured values: Longitudinal measurement



### ■ Tool type: Forward/reverse deburring tool

- Measuring process: EZmax
- Cutting edge form: SF 14
- Measured values: Longitudinal  
measurement/lateral measurement



### ■ Tool type: Countersink (length on D)

- Measuring process: EZmax
- Cutting edge form: SF 100
- Measured values: Longitudinal measurement/  
lateral measurement



### ■ Tool type: Radius cutter < 6 mm

- Measuring process: EZmax
- Cutting edge form: SF 21
- Measured values: Longitudinal  
measurement/lateral measurement/radius



### ■ Tool type: Radius cutter > 6 mm

- Measuring process: EZmax
- Cutting edge form: multiple measuring windows
- Measured values: Longitudinal measurement/  
lateral measurement/radius



### ■ Tool type: Side-milling cutters

- Measuring process: EZmax
- Cutting edge form: multiple measuring windows
- Measured values: Longitudinal measurement/lateral measurement/width



### ■ Tool type: Quadrant milling cutter

- Measuring process: EZmax
- Cutting edge form: SF 205
- Measured values: Longitudinal measurement/lateral measurement/radius



### ■ Tool type: Concentricity check at tool shank

- Measuring process: Measuring
- Cutting edge form: SF 57
- Measured values: Rundlauf Differenz X min/max



### ■ Tool type: NC spotting drill

- Measuring Process: EZmax
- Cutting Edge Form: SF 100
- Measured values: Longitudinal measurement/angle



### ■ Tool type: Chamfer cutter

- Measuring process: EZmax with two measuring points
- Cutting edge form: SF 5 and SF 100
- Measured values: Longitudinal measurement/  
lateral measurement/difference Z



### ■ Tool type: Insert drill

- Measuring process: Focus two measuring points
- Cutting edge form: SF 5 and SF 38
- Measured values: longitudinal measurement/  
lateral measurement



### ■ Tool type: High-feed end mill

- Measuring process: EZmax
- Cutting edge form: two measuring windows
- Measured values: Longitudinal  
measurement/lateral measurement



## »zidCode« EZset Identification Code – Process Description

Simple, fast, and secure: »zidCode«. This new and efficient solution for tool identification and data transmission doesn't need a network connection; instead, it transmits complete tool data simply via a QR code, without requiring any installation software on the machine controller. »zidCode« is available for the IC2 and IC3 image processing systems version 1.15.14 and above. The customer manual is available in the following languages: German, English, Chinese, and Japanese.

|                     |          |        |   |
|---------------------|----------|--------|---|
| Ident-Nr. 4710-001  |          |        |  |
| Bez. Messerkopf D63 |          |        |   |
| T-Nr. 4710          |          |        |   |
| Z                   | X        | Ra     |   |
| St.1: 75,047        | 63,038   | 0,638  |   |
| 27.07.2017          | 13:31:20 | zoller |   |



**1** Set and measure tools on the tool presetter.

**2** Print tool data on the label, including QR code.

**3** Scan »zidCode« label with QR code on the CNC machine. The actual tool data is automatically entered into the correct fields on the controls of the CNC machine

With the »zidCode« EZset identification code, you save up to 45% more time in comparison to manually entering actual tool data into the machine controller. Input errors are avoided entirely, time-consuming reworking is eliminated, and process security is increased.

### »zidCode« Tool Identification with Removable Scanner

- Removable hand scanner with shelf for quick tool identification and to scan in a QR code.
- Individually position the unit on the operating terminal / machine housing with magnets.

Item Designation: EZ96910603.1



### »zidCode« Tool Identification with Integrated Scanner

- Swiveling integrated scanner for quick tool identification and to scan in a QR code.
- Individually position the unit on the operating terminal / machine housing with magnets.

Item Designation: EZ96910603.2



### »zidCode« »ImageController2 and ImageController3« Print a QR Barcode Label

- License per presetter

Requirement:

EZ DOP data output

- »ImageController2« or »ImageController3« version 1.15.14 and above

Item Designation: EZ8708212

## Tool Identification\* (available for IC3)

EZset offers multiple formats for tool identification. The first option is technology for transmitter-receiver systems, a so-called RFID system (radio frequency identification) (image 1). RFID chips (transponders) are read or written bidirectionally using the EZset presetting and measuring machine or the CNC machine. In most cases, the RFID chip is in the drive slot or in the shear studs of the tool chuck. Actual tool data defined by the customer that is to be transferred is coded in the form of a character string using RFID hardware then saved on the RFID chip.

Types of Tool Identification on RFID Chips:

- Tool identification / RFID chip on the side of the drive slot on the tool holder (image 2)
- Tool identification / RFID chip on the shear stud on the tool holder (image 3)



(image 1)



(image 2)



(image 3)

### Item Designation:

|                      |  |
|----------------------|--|
| <b>EZ8801560</b>     | <b>Read/write software for RFID-data storage devices</b> |
| <b>EZO581553</b>     | <b>Evaluation unit Balluff BIS-C-600</b>                 |
| <b>EZ96910900-00</b> | <b>Evaluation unit Balluff BIS-M-6000</b>                |
| <b>TISW01DS</b>      | <b>Tool identification string</b>                        |

# ImageController1, 2, and 3 Standard Data Output

## Standard Data Output

- The tool presetter has an RS232 interface (ImageControllerbasic Version 1.1.1 and above) as a standard feature to output measured values in accordance with pre-defined format descriptions. Note: Data output (DOP) for ImageController2 and for ImageController 3 is optionally available for measurement data output appropriate for the control technology.

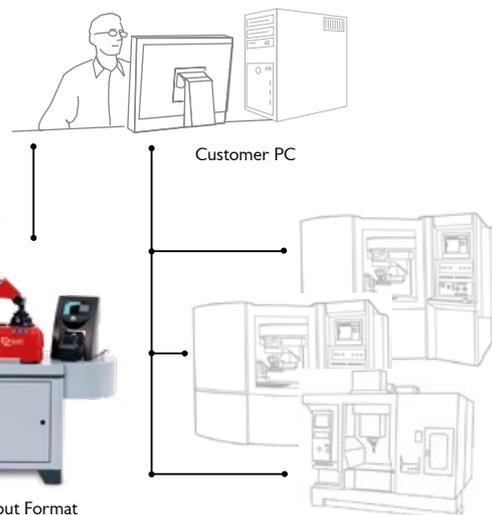
## Format Description

- Z dimension and X dimension: measurement with 3 decimal places. A minus “-” is indicated for negative values. The measured values are always indicated as radius absolute values in “mm.” Angle 1 and angle 2 are indicated with 2 decimal places. Angles are always indicated as absolute values in degrees “°.” Cutting edge radius: measurement with 3 decimal places. The radius is always indicated as a radius value in “mm.”

## Output Example (RS232)

- ;123.456;-45.234;;;;0.25;45.09;0.401;;  
;[Z dimension];[X dimension];;;;[angle1];[angle2];[cutting edge radius];;  
separating character 1 piece  
[Z dimension] +/- 3.3  
separating character 1 piece  
[X dimension] +/- 3.3  
separating character 5 piece  
[angle1] +/- 3.2  
separating character 1 piece  
[angle2] +/- 3.2  
separating character 1 piece  
[cutting edge radius] +/- 3.3  
separating characters 3 piece  
leading zeros and (+) signs are not transferred

The EZset tool presetter comes standard with an RS232 interface for transferring measuring results via network.



Customer is responsible for handling the transmission of tool data to the CNC machine.

**Note:** The scope of delivery for EZset does not include any network cables or other hardware necessary for physical data transmission.

## EZtoolOrganizer (Optional)

- External PC software to analyze measured values and save tools and tooling sheets and data transmission appropriate for the control technology via the customer's own, separate PC.

Note: The EZtoolOrganizer is only offered in Europe as a retrofitting option for existing EZset tool presettlers with ImageController1. When customers are purchasing a new tool presetter with electronic measured value data output, we recommend purchasing EZset with an ImageController 2 or 3 machine with optional data output package DOP.

**Item Designation: EZtoolorganizer**

## In Connection with EZtoolOrganizer: Post Processors (Optional)

- Post processors not included in the EZtoolOrganizer can be ordered under the “DOP format” item designation. Format requirements must be indicated in the order.
- One-time format adjustment on a post processor.
- Installation, training, format settings can optionally be completed by the EZset service employee. Invoiced based on hours worked and in accordance with applicable service guidelines.

**Item Designation: DOP Format**

# Connection Cable and Keyboard Variations

## Available Connection Cable\* for All Machine Variations

| Item Designation | Land                 | Mains Voltage |
|------------------|----------------------|---------------|
| EZ05E4100.1      | Germany              | 230 V         |
| EZ05E4100.2      | USA                  | 115 V         |
| EZ05E4100.3      | Switzerland          | 230 V         |
| EZ05E4100.4      | India / South Africa | 230 V         |
| EZ05E4100.5      | China                | 230 V         |
| EZ05E4100.6      | Great Britain        | 240 V         |
| EZ05E4100.7      | Denmark              | 230 V         |
| EZ05E4100.9      | Japan                | 100 V - 200 V |
| EZ05E4100.10     | Russia               | 220 V         |

\*All devices are supplied with a connection cable. If several connection cables are listed in the order, all additional connection cables will be charged!

## Available Keyboard Variations\* for ImageController 1/2/3

| Item Designation | Keyboard Language |
|------------------|-------------------|
| EZ9700963.22     | Arabic            |
| EZ9700963.23     | Belgian           |
| EZ9700963.11     | Danish            |
| KEYBOARD-D       | German            |
| KEYBOARD-US      | English / USA     |
| EZ9700963.6      | Finnish           |
| EZ9700963.2      | French            |
| KEYBOARD-GB      | GB / Ireland      |
| EZ9700963.16     | Greek             |
| EZ9700963.24     | Hebrew            |
| EZ9700963.25     | Icelandic         |
| EZ9700963.4      | Italian           |
| EZ9700963.17     | Japanese          |
| EZ9700963.18     | Korean            |

| Item Designation | Keyboard Language  |
|------------------|--------------------|
| EZ9700963.8      | Dutch              |
| EZ9700963.14     | Norwegian          |
| EZ9700963.13     | Polish             |
| EZ9700963.9      | Portuguese         |
| EZ9700963.19     | Russian            |
| EZ9700963.5      | Swedish            |
| EZ9700963.31     | Switzerland (West) |
| EZ9700963.26     | Slovak             |
| EZ9700963.27     | Slovenian          |
| EZ9700963.3      | Spanish            |
| EZ9700963.12     | Czech              |
| EZ9700963.20     | Turkish            |
| EZ9700963.10     | Hungarian          |

\*Option (Selectable by ordering the option storage board for keyboard and mouse, see page 41)

# Export Packages ImageControllerbasic, 1, 2, and 3

## Available Export Packages\*

| Machine Variation: | ICbasic/IC1     | IC2           | IC3                |
|--------------------|-----------------|---------------|--------------------|
| Austria            | EZEXPAGOIC1     | EZEXPA12IC2   | EZEXPA12P2-MT-P3   |
| Australia          | EZEXPAUS12      | EZEXPAUS12    | EZEXPAUS12         |
| Belgium            | EZEXPB12        | EZEXPB12      | EZEXPB12           |
| Brazil             | EZEXPBR12       | EZEXPBR12     | EZEXPBR12          |
| Switzerland        | EZEXPCH12       | EZEXPCH12     | EZEXPCH12          |
| Czech Republic     | EZEXPCZEZGOIC1  | EZEXPCZ12IC2  | EZEXPCZ12P2-MT-P3  |
| Denmark            | EZEXPDK12       | EZEXPDK12     | EZEXPDK12          |
| Spain              | EZEXPE12        | EZEXPE12      | EZEXPE12           |
| France             | EZEXPF12        | EZEXPF12      | EZEXPF12           |
| Finland            | EZEXPFIN12      | EZEXPFIN12    | EZEXPFIN12         |
| Great Britain      | EZEXPGB12       | EZEXPGB12     | EZEXPGB12          |
| Hungary            | EZEXPHGOIC1     | EZEXPH12IC2   | EZEXPH12P2-MT-P3   |
| Hong Kong          | EZEXPHK12       | EZEXPHK12     | EZEXPHK12          |
| Croatia            | EZEXPHRGOIC1    | EZEXPHR12IC2  | EZEXPHR12P2-MT-P3  |
| Italy              | EZEXPI12        | EZEXPI12      | EZEXPI12           |
| Israel             | EZEXPIL12       | EZEXPIL12     | EZEXPIL12          |
| India              | EZEXPIND12      | EZEXPIND12    | EZEXPIND12         |
| Iran               | EZEXPIR12       | EZEXPIR12     | EZEXPIR12          |
| Japan              | EZEXPJ12        | EZEXPJ12      | EZEXPJ12           |
| Malaysia           | EZEXPMAL12      | EZEXPMAL12    | EZEXPMAL12         |
| Norway             | EZEXPN12        | EZEXPN12      | EZEXPN12           |
| Netherlands        | EZEXPNL12       | EZEXPNL12     | EZEXPNL12          |
| Portugal           | EZEXPP12        | EZEXPP12      | EZEXPP12           |
| Pakistan           | EZEXPPK12       | EZEXPPK12     | EZEXPPK12          |
| Poland             | EZEXPPLEZGOIC1  | EZEXPLL12IC2  | EZEXPLL12P2-MT-P3  |
| Argentina          | EZEXPRA12       | EZEXPRA12     | EZEXPRA12          |
| China              | EZEXPRC12       | EZEXPRC12     | EZEXPRC12          |
| Chile              | EZEXPRCH12      | EZEXPRCH12    | EZEXPRCH12         |
| Indonesia          | EZEXPRI12       | EZEXPRI12     | EZEXPRI12          |
| Romania            | EZEXPRO12       | EZEXPRO12     | EZEXPRO12          |
| Korea              | EZEXPROK12      | EZEXPROK12    | EZEXPROK12         |
| Russia             | EZEXPRUS12      | EZEXPRUS12    | EZEXPRUS12         |
| Sweden             | EZEXPS12        | EZEXPS12      | EZEXPS12           |
| Singapore          | EZEXPSGP12      | EZEXPSGP12    | EZEXPSGP12         |
| Slovakia           | EZEXPSKGOIC1    | EZEXPSK12IC2  | EZEXPSK12P2-MT-P3  |
| Slovenia           | EZEXPSLOEZGOIC1 | EZEXPSLO12IC2 | EZEXPSLO12P2-MT-P3 |
| Turkey             | EZEXPTR12       | EZEXPTR12     | EZEXPTR12          |
| Taiwan             | EZEXPTWN12      | EZEXPTWN12    | EZEXPTWN12         |
| USA / Canada       | EZEXPUSA12      | EZEXPUSA12    | EZEXPUSA12         |
| South Africa       | EZEXPZA12       | EZEXPZA12     | EZEXPZA12          |

\*EZset supplies the machines in foreign countries with material guarantee. With the optional available export packages the personnel guarantee is included in addition to commissioning and training. Further countries on request. Export packages with personnel guarantee of 24 months on request.

## Available Language for Dialogs ImageControllerbasic 1, 2, and 3

### Available Language Dialogs for All ImageController Software Versions

| Language   | Language Abbreviation | ImageControllerbasic | ImageController1 | ImageController2 | ImageController3 |
|------------|-----------------------|----------------------|------------------|------------------|------------------|
| Deutsch    | DE                    | 1.4.3                | 1.15.0           | 1.15.0           | 1.15.0           |
| English    | EN                    | 1.4.3                | 1.15.0           | 1.15.0           | 1.15.0           |
| French     | FR                    | 1.4.3*               | 1.15.0*          | 1.15.0*          | 1.15.0*          |
| Italian    | IT                    | 1.2.0*               | 1.15.0*          | 1.15.0*          | 1.15.0*          |
| Spanish    | ES                    | 1.2.0*               | 1.15.0*          | 1.15.0*          | 1.15.0*          |
| Czech      | CZ                    | 1.4.3*               | 1.15.0*          | 1.15.0*          | 1.15.0*          |
| Dutch      | NL                    | 1.3.0*               | 1.15.0*          | 1.15.0*          | 1.15.0*          |
| Korean     | KN                    | 1.4.3*               | -                | -                | -                |
| Chinese    | ZH-CN                 | 1.4.3*               | 1.15.0*          | 1.15.0*          | 1.15.0*          |
| Japanese   | JA                    | 1.2.0*               | 1.15.0*          | 1.15.0*          | 1.15.0*          |
| Thai       | TH                    | 1.1.3*               | 1.16.1*          | -                | -                |
| Polish     | PL                    | 1.1.3*               | 1.15.0*          | 1.15.0*          | 1.15.0*          |
| Russian    | RU                    | 1.4.3*               | 1.15.0*          | 1.15.0*          | 1.15.0*          |
| Turkish    | TR                    | 1.3.0*               | 1.14.6*          | 1.14.6*          | 1.14.6*          |
| Croatian   | HR                    | 1.3.0*               | 1.16.1*          | -                | -                |
| Portuguese | PT                    | 1.3.0*               | 1.16.1*          | 1.16.1*          | -                |
| Slovakian  | SK                    | 1.3.0*               | -                | -                | -                |
| Danish     | DA                    | -                    | 1.15.0*          | 1.15.0*          | 1.15.0*          |
| Swedish    | SV                    | -                    | 1.15.0*          | 1.15.0*          | 1.15.0*          |
| Hungarian  | HU                    | -                    | 1.15.0*          | 1.15.0*          | 1.15.0*          |

\* optional

### Available Languages for Software / Machine Instructions

| Language Dialog | Language Abbreviation | ImageControllerbasic | ImageController1   | ImageController2    | ImageController3   |
|-----------------|-----------------------|----------------------|--------------------|---------------------|--------------------|
| Deutsch         | DE                    | Software / Machine   | Software / Machine | Software / Machine  | Software / Machine |
| English         | EN                    | Software / Machine   | Software / Machine | Software / Machine  | Software / Machine |
| French          | FR                    | Software / Machine   | Software / Machine | Software / Machine  | Software / Machine |
| Spanish         | ES                    | -                    | -                  | -                   | -                  |
| Italian         | IT                    | Software / Machine   | Software / Machine | Software / Machine  | Software / Machine |
| Russian         | RU                    | Software / Machine   | Software / Machine | Software / Machine- | Software / Machine |
| Czech           | CZ                    | Software / Machine   | Software / Machine | Software / Machine  | -                  |
| Japanese        | JP                    | -                    | -                  | -                   | Software           |
| Canadian        | CA                    | Software / Machine   | Software / Machine | Software / Machine  | Software / Machine |
| Dutch           | NL                    | Software / Machine   | Software / Machine | Software / Machine  | Software / Machine |
| Polish          | PL                    | -                    | Software / Machine | Software / Machine  | Software / Machine |
| Chinese         | CN                    | -                    | Software / Machine | Software / Machine  | Software / Machine |
| Portuguese      | PT                    | -                    | Software / Machine | Software / Machine  | Software / Machine |

### ImageController1, 2, and 3 Operating System

| Language Dialog | Language Abbreviation | ImageController1 | ImageController2 | ImageController3 |
|-----------------|-----------------------|------------------|------------------|------------------|
| Deutsch         | DE                    | available        | available        | available        |
| English         | EN                    | available        | available        | available        |
| French          | FR                    | available        | available        | available        |

# Accessories Included Depending on Machine Variation (Optional)

## Base table

- Robust table system for positioning the machine appropriately for the shop floor.
- Integrated storage areas depending on table system variation.
- Stable leveling elements.

Item Designation: EZbase



EZBase only for EZgo350 or EZset350 with ICbasic or IC1



EZBase for ICbasic, IC1, IC2, IC3

## Label Printer

- DT-2205 label printer for printing tool labels (X and Z value, radius, 2 angles).  
The tool designation, T number, and information on the adapter used are also printed out.
- Economical thermo printing technique – without refilling cartridges.
- 300 dpi print quality
- Max. 960 labels / roll
- No printer shelf is necessary for this printer.  
Can be placed on the extension table to save space.



Item Designation: EZprint (EZ9734882-1)

## Printer Labels

- Roll of labels for DT-2205 label printer
- 260 or 960 labels / roll
- Label size: 260 dimensions are 35 x 89 mm
- Label size: 960 dimensions are 25 x 75 mm

Item Designation: EZlabel (260 labels / roll)

Item Designation: EZlabel-T (960 labels / roll)

## Storage Board

- Shelf for professionally storing up to three adapters with SK 50 mount (delivered without adapter).

Optional:

- Adapter inserts size SK 50 (optional).
- one-row (EZ9500431-0110.1) or two-row (EZ9500432-0110.1)

Item Designation: EZboard



## Cleaning Putty

- For cleaning the cutting tool edge from contaminants.

Item Designation: EZputty



# Accessories Included Depending on Machine Variation (Optional)

## Data Transfer Directly to the CNC Machine for IC2 and IC3

- Tool data transfer from the tool presetter to the CNC machine appropriate for the control technology including format generator for setting and selecting output formats.



Item Designation: EZdop

## Center Height Measuring for IC1, IC2 and IC3

- Monochrome camera for measuring and presetting tools to the rotation center.
- The camera's cross hairs can be rotated and moved.
- Rotational height offset can be measured to  $\pm 3$  mm.

### Optional:

- Color laser printer and printing function to be able to output tool images of the rotational height offset.
- EZturn commissioned by EZset service.



Item Designation: EZturn

## Maintenance Unit

- For easy and care-free preparation of compressed air directly on the tool presetter (table).
- Maintenance unit, equipped with pressure reducer, pressure gauge, and shut-off valve.



Item Designation: EZmaintain

## Spindle Cover

- Custom-fit cover for the spindle to protect from dust and dirt.



Item Designation: EZspindle-protection

## Protective Cover

- Cover for the tool presetter to protect from dust and dirt.

Item Designation: EZprotection



## Accessories Included Depending on Machine Variation (Optional)

### Color Laser Printer A4 Format for IC1, IC2 and IC3

- Color laser printer for A4 or US letter format printing.
- Connection to the tool presetter via a USB interface
- Printer has a mains connection, so that other work stations can access this printer.
- Includes four color cartridges (black, cyan, magenta, yellow) that can be exchanged independently from one another. Replacement cartridges available upon request.
- Requirement: Printer function



**Item Designation: EZprint-L-U**

### Printer Shelf for Color Laser Printer for IC1, IC2 and IC3

- Shelf for color laser printer including anti-slip mat.

**Item Designation: EZprintboard**



### Storage Board for Keyboard and Mouse for IC1, IC2 and IC3

- Storage board for keyboard and mouse. A keyboard and mouse are included in the scope of delivery.
- For available keyboard variations, see page 36



# Tool Holder Spindles

## SK 50 Tool Holder Spindle (Standard)

- For direct holding of adapters or tools with shank size SK 50 (reducing sleeves or other adapter types are required for other shank sizes).
- Pneumatic spindle function like 4 x 90° indexing and 360° spindle brake
- Concentricity of 2 µm.
- Spindle nose with integrated calibration balls.

### Optional:

- Autofocus for EZset ImageController3
- Matching adapters on pages 43 to 44



## SK 50 Tool Holder Spindle Vacuum (Option)

- Vacuum clamp, in addition to 4 x 90° spindle indexing and 360° spindle brake (pneumatic activation via membrane keypad), for low pressure and hold between the SK50 spindle base and tool chuck with steep tapers.
- For direct holding of adapters or tools with shank size SK 50 (reducing sleeves or other adapter types are required for other shank sizes).
- Concentricity of 2 µm.
- Spindle nose with integrated calibration balls.

### Optional:

- Autofocus for EZset ImageController3
- Matching adapters on pages 43 to 44

Item Designation: EZS4400500.1



Vacuum clamping button

Spindle brake button

Spindle indexing button

## Universal Spindle with Power-Activated Tool Clamp (Option with IC1, IC2, IC3)

- Power-activated tool clamp for almost all tools with cylindrical shank, SK steep taper in accordance with DIN, ANSI, CAT, MAS-BT up to hollow shank taper HSK.
- Direct mounting of the attachment holder and power clamping of various tool holders.
- Compact and robust construction with a tool clamp of max. 500 N
- High concentricity for a repeatability of  $\leq 2\mu\text{m}$ .

### Optional:

- Autofocus for EZset ImageController3
- Matching adapters on pages 45

Item Designation: EZLS41550



## Autofocus for IC2 and IC3 for SK 50 vacuum and universal spindle

- Automatic focus on the cutting tool edge through CNC rotation of the spindle to the highest point on the cutting tool edge.

Item Designation: EZ8701203



# Adapter for SK 50 Tool Holder Spindle (Optional)

Delivery time for adapters is listed below: Some inventory may be immediately available. Other adapters available on request.

| SK 50 / Steep Taper SK Adapter   |           |       |               |
|--|-----------|-------|---------------|
| Description  | Order no. | Size  | Loss in Z     |
| <ul style="list-style-type: none"> <li>■ For holding tool shanks with steep taper DIN 69871-1</li> <li>■ Integrated calibration spheres</li> </ul> | EZADSK25  | SK 25 | approx. 20 mm |
|  | EZADSK30  | SK 30 | approx. 20 mm |
|  | EZADSK35  | SK 35 | approx. 20 mm |
|  | EZADSK40  | SK 40 | approx. 20 mm |
|  | EZADSK40  | SK45  | approx. 20 mm |



| SK 50 / Hollow Shank Taper HSK Adapter Without Tool Clamp   |            |                                |               |
|---|------------|--------------------------------|---------------|
| Description   | Order no.  | Size                           | Loss in Z     |
| <ul style="list-style-type: none"> <li>■ For holding tool shanks with hollow shank taper DIN 69893</li> <li>■ End face for HSK tool holder</li> <li>■ Integrated calibration spheres</li> </ul> | EZADHSK32  | HSK 32 A/C/E<br>HSK 40 B/D/F   | approx. 49 mm |
|   | EZADHSK40  | HSK 40 A/C/E<br>HSK 50 B/D/F   | approx. 49 mm |
|   | EZADHSK50  | HSK 50 A/C/E<br>HSK 63 B/D/F   | approx. 49 mm |
|   | EZADHSK63  | HSK 63 A/C/E<br>HSK 80 B/D/F   | approx. 49 mm |
|   | EZADHSK80  | HSK 80 A/C/E<br>HSK 100 B/D/F  | approx. 59 mm |
|   | EZADHSK100 | HSK 100 A/C/E<br>HSK 125 B/D/F | approx. 97 mm |



| SK 50 / Hollow Shank Taper HSK Adapter With Manual Eccentric Clamp   |              |                                |                |
|--|--------------|--------------------------------|----------------|
| Description  | Order no.    | Size                           | Loss in Z      |
| <ul style="list-style-type: none"> <li>■ For holding tool shanks with hollow shank taper DIN 69893 with and without cooling tube</li> <li>■ End face for HSK tool holder</li> <li>■ Integrated calibration spheres</li> <li>■ Corresponds to ICTM position fixing</li> </ul> | EZADHSK25-E  | HSK 25 A/C/E<br>HSK 32 B/D/F   | approx. 75 mm  |
|  | EZADHSK32-E  | HSK 32 A/C/E<br>HSK 40 B/D/F   | approx. 75 mm  |
|  | EZADHSK40-E  | HSK 40 A/C/E<br>HSK 50 B/D/F   | approx. 75 mm  |
|  | EZADHSK50-E  | HSK 50 A/C/E<br>HSK 63 B/D/F   | approx. 75 mm  |
|  | EZADHSK63-E  | HSK 63 A/C/E<br>HSK 80 B/D/F   | approx. 75 mm  |
|  | EZADHSK80-E  | HSK 80 A/C/E<br>HSK 100 B/D/F  | approx. 105 mm |
|  | EZADHSK100-E | HSK 100 A/C/E<br>HSK 125 B/D/F | approx. 105 mm |



# Adapter for SK 50 Tool Holder Spindle (Optional)

Delivery time for adapters is listed below: Some inventory may be immediately available. Other adapters available on request.

| SK 50 / VDI Cylinder Shaft Adapter with Manual Tool Clamp   |           |                 |                |
|---|-----------|-----------------|----------------|
| Description   | Order no. | Size            | Loss in Z      |
| <ul style="list-style-type: none"> <li>■ For holding tools with VDI cylinder shaft DIN 69880</li> <li>■ Integrated calibration spheres</li> </ul> | EZADVDI16 | D16 (also EMCO) | approx. 80 mm  |
|   | EZADVDI20 | D20             | approx. 80 mm  |
|   | EZADVDI25 | D25             | approx. 80 mm  |
|   | EZADVDI30 | D30             | approx. 85 mm  |
|   | EZADVDI40 | D40             | approx. 85 mm  |
|   | EZADVDI50 | D50             | approx. 95 mm  |
|   | EZADVDI60 | D60             | approx. 105 mm |



| SK 50 / Capto Adapter with Manual Clamp - Eccentric Clamp   |           |      |                |
|---|-----------|------|----------------|
| Description   | Order no. | Size | Loss in Z      |
| <ul style="list-style-type: none"> <li>■ For holding tools with Capto system</li> <li>■ Manual tool clamp with tensioning screw</li> <li>■ Without calibration spheres</li> </ul> | EZ6307U03 | C3   | approx. 140 mm |
|   | EZ6307U04 | C4   | approx. 140 mm |
|   | EZ6307U05 | C5   | approx. 95 mm  |
|   | EZ6307U06 | C6   | approx. 120 mm |
|   | EZ6307U08 | C8   | approx. 140 mm |
|   | EZ6307U10 | C10  | -              |



| SK 50 Adapter DIN 69871/KM/UTS   |           |            |                |
|--|-----------|------------|----------------|
| Description  | Order no. | Size       | Loss in Z      |
| <ul style="list-style-type: none"> <li>■ For holding tools with KM/UTS system</li> <li>■ Manual tool clamp</li> <li>■ Without calibration spheres</li> </ul> | EZADKM32  | KM/UTS 32  | approx. 60 mm  |
|  | EZADKM40  | KM/UTS 40  | approx. 60 mm  |
|  | EZADKM50  | KM/UTS 50  | approx. 60 mm  |
|  | EZADKM63  | KM/UTS 63  | approx. 60 mm  |
|  | EZADKM80  | KM/UTS 80  | approx. 60 mm  |
|  | EZADKM100 | KM/UTS 100 | approx. 130 mm |



# Attachment Holder for Universal Spindle with Power Clamping (Optional)

Delivery time for adapters is listed below. Some inventory may be immediately available. Other adapters available on request.

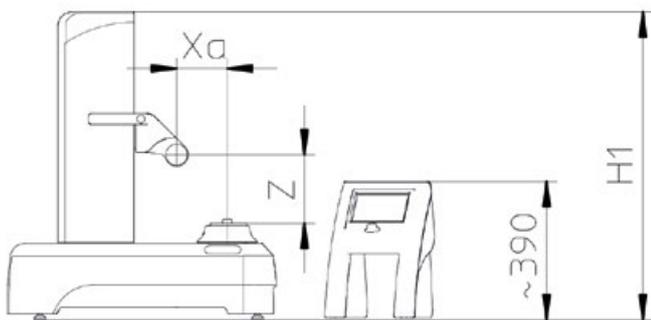
| Attachment Holder SK Steep Taper   |   |       |           |
|--|---|-------|-----------|
| Description  | Order no. with clamping bolts DIN69872/ ISO 7388-2 / MAS-BT | Size  | Loss in Z |
| <ul style="list-style-type: none"> <li>■ Integrated calibration edge</li> <li>■ Lock for positioning to the index</li> <li>■ Case-hardened, burnished, and polished</li> <li>■ Integrated tool clamp in attachment holder</li> </ul> | EZ6042225.1   | SK 25 | 0 mm      |
|  | EZ6042230.1   | SK 30 | 0 mm      |
|  | EZ6042240.1   | SK 40 | 0 mm      |
|  | EZ6042250.1   | SK 50 | 0 mm      |



| HSK Hollow Shank Taper Attachment Holder   |           |                               |               |
|--|-----------|-------------------------------|---------------|
| Description  | Order no. | HSK Size                      | Loss in Z     |
| <ul style="list-style-type: none"> <li>■ Integrated calibration edge</li> <li>■ Lock for positioning to the index</li> <li>■ Case-hardened, burnished, and polished</li> <li>■ Integrated tool clamp in attachment holder</li> </ul> | EZ6057925 | HSK25 A/C/E/T-<br>HSK32 B/D/F | approx. 25 mm |
|  | EZ6057932 | HSK32 A/C/E/T-<br>HSK40 B/D/F | approx. 25 mm |
|  | EZ6057940 | HSK40 A/C/E/T-<br>HSK50 B/D/F | approx. 25 mm |
|  | EZ6057950 | HSK50 A/C/E/T-<br>HSK63 B/D/F | approx. 25 mm |
|  | EZ6057963 | HSK63 A/C/E/T-<br>HSK80 B/D/F | approx. 25 mm |



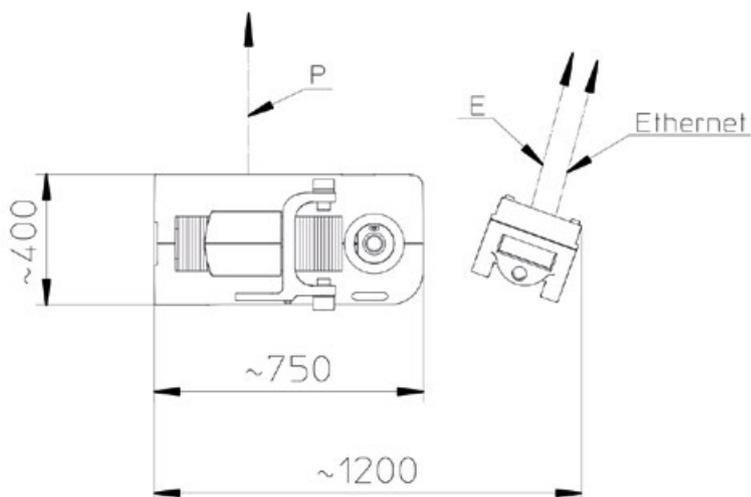
# Installation Dimensions EZgo350/420/600 with ICbasic without Table



Pneumatic connection value:  
DIN ISO 5873-1 Class 3  
Min. 6 bar - max 8 bar

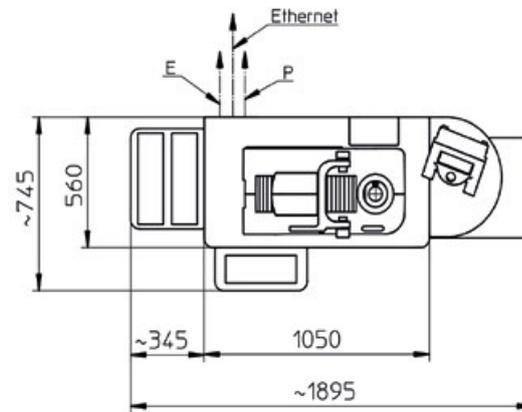
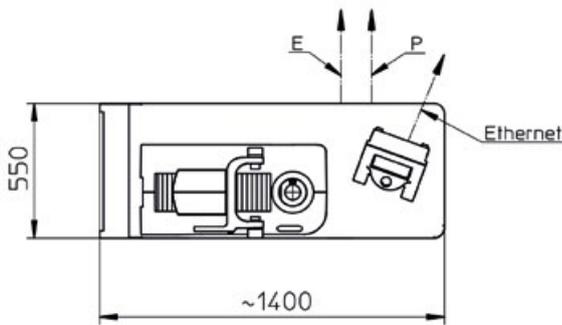
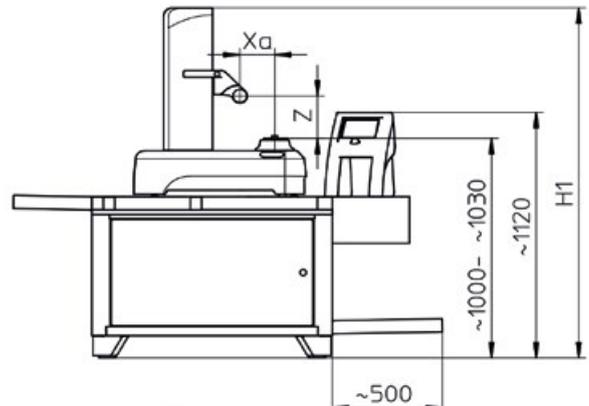
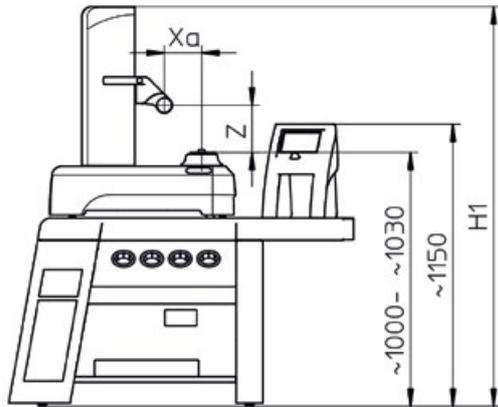
Electric connection value:  
100 - 240 V (\*) L + N + PE  
50 / 60 Hz  
Power fuse 16 A (gL / gG)  
Power cable 2,5 m

P Air connection  
E Electric / mains connection



| Technical data                            | EZgo350 with ICbasic | EZgo420 with ICbasic | EZgo600 with ICbasic |
|---|----------------------|----------------------|----------------------|
| Maximum Tool Length Z                     | 350 mm               | 420 mm               | 600 mm               |
| Max. Tool Diameter X                      | 320 mm               | 420 mm               | 420 mm               |
| Travel Range in Xa                        | 160 mm               | 210 mm               | 210 mm               |
| Total Height H1                           | 870 mm               | 1060 mm              | 1260 mm              |
| Snap Gauge                                | 0 mm                 | 100 mm               | 100 mm               |
| Weight Approx.                            | 80 Kg                | 100 Kg               | 120 Kg               |
| Dimensions of Device Including IC approx. | 120 x 40 x 87 cm     | 120 x 40 x 106 cm    | 120 x 40 x 126 cm    |
| Dimensions of Device Including Packaging  | 150 x 76 x 132 cm    | 171 x 78 x 154 cm    | 171 x 78 x 154 cm    |

# Installation Dimensions EZgo350/420/600 with ICbasic with Table



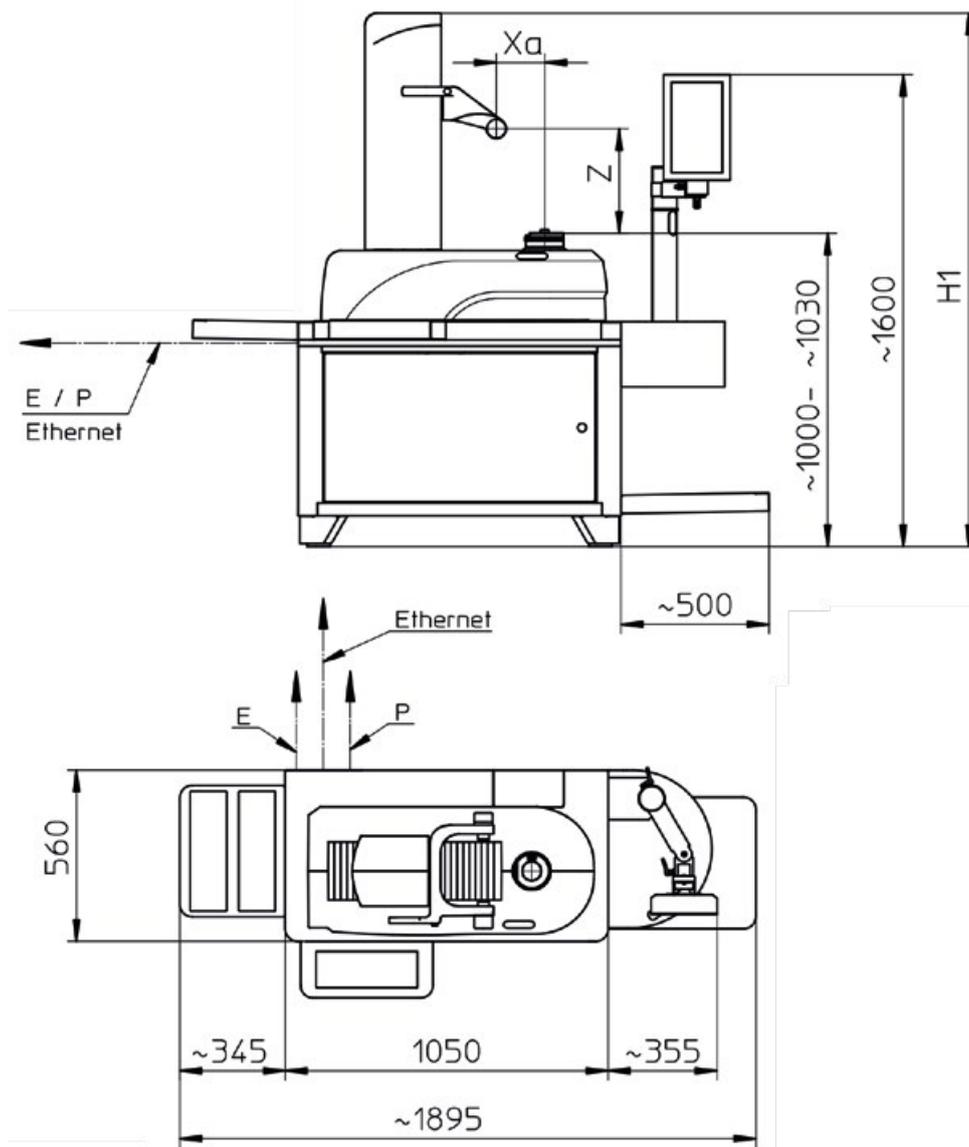
Pneumatic connection value:  
DIN ISO 5873-1 Class 3  
Min. 6 bar - max 8 bar

Electric connection value:  
100 - 240 V (\*) L + N + PE  
50 / 60 Hz  
Power fuse 16 A (gL / gG)  
Power cable 2,5 m

P Air connection  
E Electric / mains connection

| Technical data                                 | EZgo350 with ICbasic | EZgo420 with ICbasic | EZgo600 with ICbasic |
|--|----------------------|----------------------|----------------------|
| Maximum Tool Length Z                          | 350 mm               | 420 mm               | 600 mm               |
| Max. Tool Diameter X                           | 320 mm               | 420 mm               | 420 mm               |
| Travel Range in Xa                             | 160 mm               | 210 mm               | 210 mm               |
| Total Height H1 (Left Image)                   | 1640 mm              | 1830 mm              | 2030 mm              |
| Total Height H1 (Right Image)                  | 1600 mm              | 1750 mm              | 1950 mm              |
| Snap Gauge                                     | 0 mm                 | 100 mm               | 100 mm               |
| Weight Approx.                                 | 165 - 180 Kg         | 190 - 274 Kg         | 200 - 289 Kg         |
| Max. Dimensions of Device Including IC Approx. | 190 x 75 x 165 cm    | 190 x 75 x 175 cm    | 190 x 75 x 195 cm    |
| Dimensions of Device Including Packaging       | 187 x 94 x 217 cm    | 187 x 94 x 217 cm    | 187 x 94 x 217 cm    |

# Installation Dimensions EZset350/420/600 with IC1



Pneumatic connection value:  
DIN ISO 5873-1 Class 3  
Min. 6 bar - max 8 bar

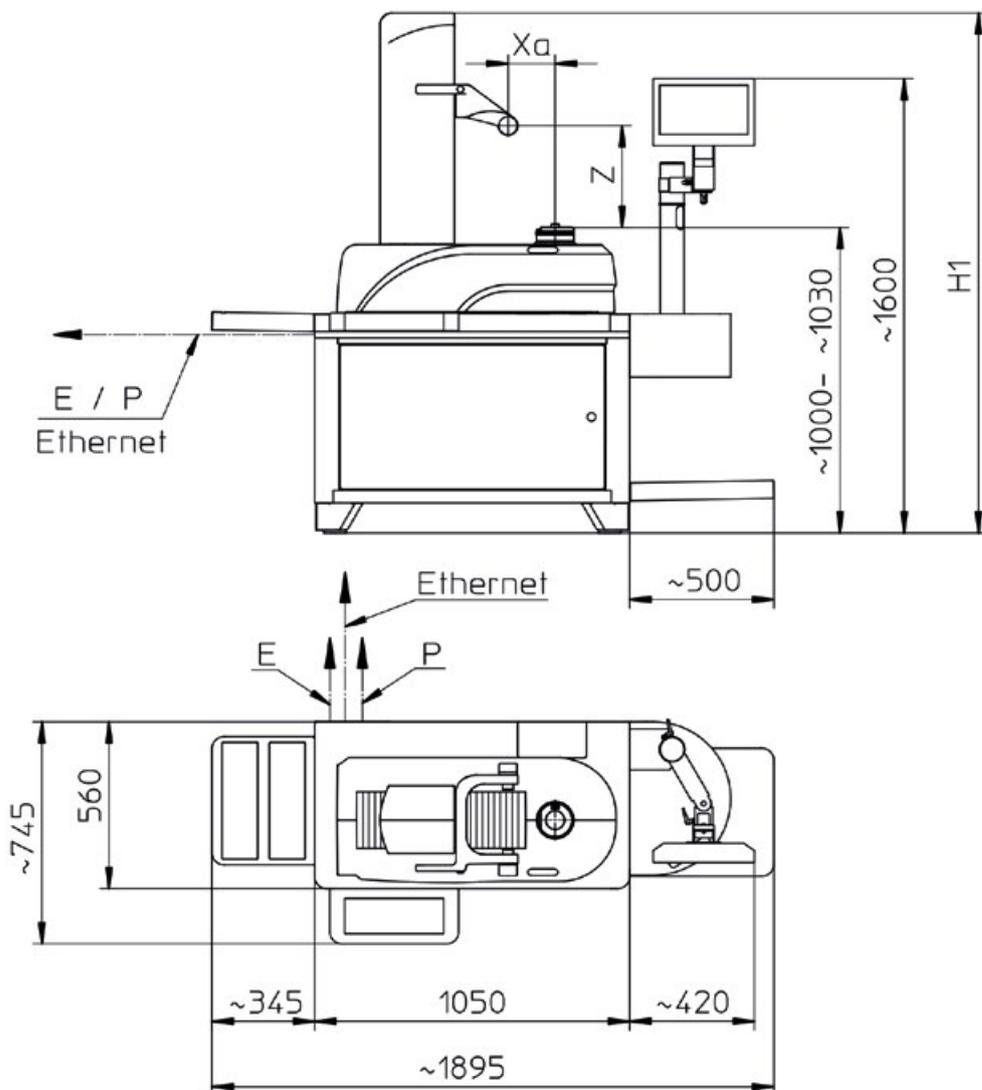
Electric connection value:  
100 - 240 V (\*) L + N + PE  
50 / 60 Hz  
Power fuse 16 A (gL / gG)  
Power cable 2,5 m

P Air connection  
E Electric / mains connection

## Technical data

|   | EZset350 with IC1 | EZset420 with IC1 | EZset600 with IC1 |
|---|-------------------|-------------------|-------------------|
| Maximum Tool Length Z                     | 350 mm            | 420 mm            | 600 mm            |
| Max. Tool Diameter X                      | 320 mm            | 420 mm            | 420 mm            |
| Travel Range in Xa                        | 160 mm            | 210 mm            | 210 mm            |
| Total Height H1                           | 1600 mm           | 1750 mm           | 1950 mm           |
| Snap Gauge                                | 0 mm              | 100 mm            | 100 mm            |
| Weight Approx.                            | 180 Kg            | 274 Kg            | 289 Kg            |
| Dimensions of Device Including IC approx. | 190 x 75 x 160 cm | 190 x 75 x 175 cm | 190 x 75 x 195 cm |
| Dimensions of Device Including Packaging  | 187 x 94 x 217 cm | 187 x 94 x 217 cm | 187 x 94 x 217 cm |

# Installation Dimensions EZset350/420/600 with IC2



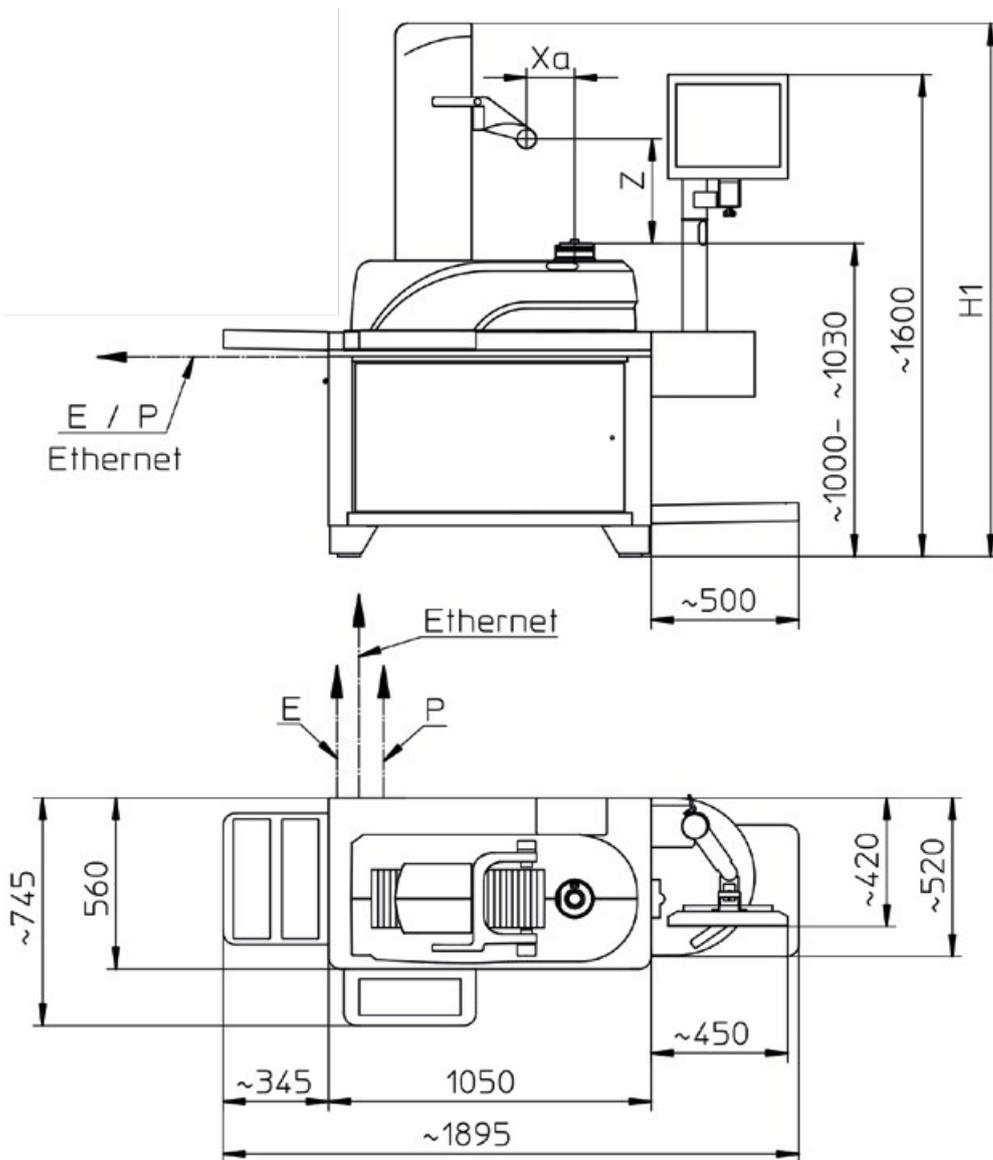
Pneumatic connection value:  
 DIN ISO 5873-1 Class 3  
 Min. 6 bar - max 8 bar

Electric connection value:  
 100 - 240 V (\*) L + N + PE  
 50 / 60 Hz  
 Power fuse 16 A (gL / gG)  
 Power cable 2,5 m

P Air connection  
 E Electric / mains connection

| Technical data                            | EZset350 with IC2 | EZset420 with IC2 | EZset600 with IC2 |
|---|-------------------|-------------------|-------------------|
| Maximum Tool Length Z                     | 350 mm            | 420 mm            | 600 mm            |
| Max. Tool Diameter X                      | 320 mm            | 420 mm            | 420 mm            |
| Travel Range in Xa                        | 160 mm            | 210 mm            | 210 mm            |
| Total Height H1                           | 1600 mm           | 1750 mm           | 1950 mm           |
| Snap Gauge                                | 0 mm              | 100 mm            | 100 mm            |
| Weight Approx.                            | 180 Kg            | 274 Kg            | 289 Kg            |
| Dimensions of Device Including IC Approx. | 190 x 75 x 160 cm | 190 x 75 x 175 cm | 190 x 75 x 195 cm |
| Dimensions of Device Including Packaging  | 187 x 94 x 217 cm | 187 x 94 x 217 cm | 187 x 94 x 217 cm |

# Installation Dimensions EZset350/420/600 with IC3



Pneumatic connection value:  
DIN ISO 5873-1 Class 3  
Min. 6 bar - max 8 bar

Electric connection value:  
100 - 240 V (\*) L + N + PE  
50 / 60 Hz  
Power fuse 16 A (gL / gG)  
Power cable 2,5 m

P Air connection  
E Electric / mains connection

## Technical data

|   | EZset350 with IC3 | EZset420 with IC3 | EZset600 with IC3 |
|---|-------------------|-------------------|-------------------|
| Maximum Tool Length Z                     | 350 mm            | 420 mm            | 600 mm            |
| Max. Tool Diameter X                      | 320 mm            | 420 mm            | 420 mm            |
| Travel Range in Xa                        | 160 mm            | 210 mm            | 210 mm            |
| Total Height H1                           | 1600 mm           | 1750 mm           | 1950 mm           |
| Snap Gauge                                | 0 mm              | 100 mm            | 100 mm            |
| Weight Approx.                            | 180 Kg            | 274 Kg            | 289 Kg            |
| Dimensions of Device Including IC Approx. | 190 x 75 x 160 cm | 190 x 75 x 175 cm | 190 x 75 x 195 cm |
| Dimensions of Device Including Packaging  | 187 x 94 x 217 cm | 187 x 94 x 217 cm | 187 x 94 x 217 cm |

## Standard Packaging

- Standard cardboard transport packaging.
- Includes protective foil packaging over the tool presetter.

Item Designation: EZpack



## Wooden Packaging

- Wooden transport packaging
- Includes protective foil packaging over the tool presetter.

Item Designation: EZP-WD695



## “Seaworthy” Packaging

- Seaworthy packaging for overseas transportation.
- Vacuum packaged and inside a wooden box.

Item Designation: EZP-sea

## Note: Measuring Path Loss

- Using adapters can reduce the indicated measuring range in some circumstances.  
Please note the indicated measuring range loss for the adapters offered under accessories.

## Accuracy Data

| Accuracy                  | Value        |
|---------------------------|--------------|
| Absolute                  | +/- 0,005 mm |
| Display of meter axes     | 0,001 mm     |
| Concentricity*            | 0,002 mm     |
| Presetting                | 0,002 mm     |
| Repeatability             | +/- 0,002 mm |
| Changing accuracy adapter | 0,002 mm     |

\*measured at SK50 spindle nose

## EZset Sales Conditions (GTCs)

### Sec. 1 General - Scope of Application

1. The EZset Sales Conditions apply to all current and future business relationships with Customer.
2. Any deviating, contradictory, or supplementary General Terms and Conditions shall not be a component of this contract, even if we are aware of them, unless we have expressly agreed to their validity in writing.
3. If individual provisions of the contract with Customer, including of these General Terms and Conditions, be or become invalid in whole or in part, this shall not affect the validity of the remaining provisions. The regulation which is invalid in whole or in part shall be replaced by a regulation with economic effect coming as close as possible to the invalid regulation, insofar as this does not result in any significant change to the content of the contract.

### Sec. 2 Offer - Offer Documentation

1. EZset contractual offers are non-binding.
2. Orders will only come into being following a written order confirmation from EZset. The EZset order confirmation alone shall be used to determine the scope of services owed under the contract. Oral agreements, no matter who has agreed to them, are only valid if they are confirmed by EZset in writing. The written form clause is mandatory, and cannot be revoked orally even through mutual agreement or through behavior implying consent to such a revocation.
3. If Customer orders the delivered goods electronically, EZset will confirm the order immediately. The receipt confirmation does not represent a binding order acceptance. EZset expressly rejects any further informational obligations.
4. The documents used to prepare EZset offers or EZset order confirmations, such as images, drawings, information on weights and dimensions, are only approximate unless expressly indicated as binding. EZset reserves ownership and copyrights over all advance cost estimates, images, drawings, calculations, and other documents. These documents may only be transmitted to third parties with the express written approval of EZset.

### Sec. 3 Prices - Payment Conditions

1. If not otherwise stated in the order confirmation, the EZset prices shall be "ex works," excluding packaging.
2. Statutory VAT is not included in the EZset prices. It will be listed separately on the invoice in the amount legally applicable on the date the invoice is issued.
3. The purchase price shall be paid to EZset without any discounts free of charges to our registered office. If not otherwise indicated in the order confirmation, payment must be made in advance.
4. If Customer falls into default of payment, EZset shall be entitled to charge default interest of 8 % over the base interest rate in accordance with Sec. 1 of the Transitional Discount Rate Law of 1998-06-09. If EZset suffers higher damages due to the delay, EZset shall be entitled to assert these further damages. However, Customer shall be entitled to prove to EZset that EZset has suffered no or lower damages as a consequence of the payment delay.
5. Customer shall only have a right of offset if its counterclaims have been recognized in a court of law or recognized as valid by EZset. In addition, it shall only be entitled to exercise its right of retention if its counterclaim is based on the same contractual relationship.

### Sec. 4 Retention of Ownership

1. EZset reserves the right of ownership to the delivered goods until all receivables under the ongoing business relationship are paid in full.
2. Customer is obligated to handle the purchased object with care. If maintenance and inspection work is necessary, Customer must complete such work at its own cost and in due time. It is obligated upon request by EZset to sufficiently insure the delivered objects at their new value and at its own cost against damage by fire, water, and theft.
3. Customer must inform EZset promptly in cases of pledges or other third party claims. Insofar as the third party is not able to reimburse EZset for judicial and extra-judicial costs of a third party opposition complaint in accordance with Sec. 771 Code of Civil Procedure (ZPO), Customer shall be liable for any losses suffered by EZset.
4. If Customer breaches the contract in any manner, in particular through delaying payment or through violating an obligation under clauses 2 and 3 of this provision, EZset shall be entitled to withdraw from the contract and demand surrender of the purchased goods.
5. Customer may only sell the delivered purchased goods to third parties if it has paid all claims resulting from the ongoing business relationship. If the delivered purchased goods are combined with other materials, EZset shall obtain co-ownership of the new combined material in relationship to the value of the material at the time of combination; in addition, the new combined material may only be sold once all claims under the ongoing business relationship have been paid. If Customer does sell goods to third parties in violation of this contract, Customer hereby assigns its claims resulting from the sale to third parties to EZset in the amount of EZset's claim or EZset's percentage of co-ownership (advance assignment). EZset accepts this assignment. Customer shall provide the name and address of any such third party to EZset promptly, and shall provide or submit to EZset all information and associated documents necessary to collect the assigned claim, such as contractual documents.
6. Customer may not pledge the goods delivered by EZset nor assign them to third parties by way of security.

# EZset Sales Conditions (GTCs)

## Sec. 5 Delivery Term

1. Delivery terms or deadlines agreed either in a binding or non-binding manner shall require the written form.
2. An agreed delivery term shall begin once the order confirmation is sent, or upon receipt of payment if advance payment is to be made, but not before Customer has provided the documents, permits, and approvals it is required to provide and clarified all technical questions, nor before advance payments are received. Customer shall be required to promptly and properly fulfill its own obligations in order for EZset to adhere to its delivery term obligations.
3. The delivery term shall be deemed fulfilled if the delivered goods have left the factory by the end of this term, or if EZset has provided notification that goods are ready for shipment.
4. Delays in delivery or service due to force majeure or due to circumstances which make it significantly more difficult or impossible for EZset to complete delivery on more than a temporary basis – including worker disputes and official orders, even if these affect suppliers or sub-suppliers of EZset – shall not be the responsibility of EZset, even in the case of binding terms and deadlines. Such events shall entitle EZset to delay the delivery or service by the duration of the obstacle plus an appropriate start-up time or to withdraw from the contract in whole or in part due to the non-fulfilled part of the contract. EZset shall inform Customer of the beginning and end of such obstacles as soon as possible.
5. If EZset falls into default of delivery for reasons for which EZset is responsible, Customer shall be entitled to demand a flat rate for damages resulting from the delay, amounting to 0.5% of the value of the delivery, and a maximum of 5% of the value of the delivery, for each full week of the delay. Further claims are excluded. In order for the flat rate for damages resulting from the delay to be paid, Customer may not be able to use the delivered goods promptly or in accordance with the contract because of the delay.  
If Customer provides EZset with an appropriate grace period, with threat of refusal to accept the goods, after EZset has already fallen into default, it shall be entitled to withdraw from the contract after this grace period expires unsuccessfully. Further claims for damages, except the aforementioned flat-rate damages, are excluded.
6. If Customer falls into default of acceptance, or if it violates other cooperation obligations, EZset shall be entitled to demand payment for any damages EZset suffers, including any additional expenses. In this case, the risk of any accidental loss or destruction of the purchased goods shall also be transferred to Customer at the time at which it falls into default of acceptance. EZset shall also be entitled to set an appropriate grace period for acceptance or fulfillment of Customer's cooperation obligations. After an appropriate grace period has expired, EZset shall be entitled to dispose of the delivered goods in some other manner, assert damages for default of acceptance, and to deliver an equivalent product to Customer with an appropriately extended deadline.

## Sec. 6 Transfer of Risk - Packaging Costs

1. If not otherwise indicated in the order confirmation, the delivery shall be agreed as "ex works."
2. No packaging of any kind will be taken back; Customer shall be obligated to handle disposal of the packaging at its own cost.
3. If Customer requests, EZset shall send the delivery with the insurance selected by Customer, in particular transportation insurance, at Customer's cost. In this case, the risk shall be transferred to Customer as soon as the shipment has been handed over to the person transporting the goods. If the shipment is delayed upon request by Customer, the risk of accidental loss or destruction shall be transferred to Customer at this time.

## Sec. 7 Warranty for Defects

1. For Customer to assert rights under the warranty, it must have properly fulfilled its duties of inspection and notification of complaint in accordance with Sections 377, 378 HGB (German Commercial Code). Customer shall bear the full burden of proof for all requirements necessary to make the claim, in particular for the defect itself, for the time at which the defect was discovered, and for ensuring that the defect complaint is submitted in a timely fashion.
2. If the purchased goods are defective, and if EZset is responsible for this defect, EZset shall be entitled to make a repair or deliver replacement goods at its own discretion. In case of a repair, EZset shall be obligated to bear all costs associated with the purpose of repair, in particular transportation, travel, work, and material costs, as long as these are not increased by the delivered goods being moved to another location besides the place of fulfillment.
3. If EZset is not prepared or not able to provide a repair or replacement delivery, if it delays in doing so, in particular past a reasonable term for reasons for which EZset is responsible, or if the repair or replacement delivery is unsuccessful for some other reason, Customer shall be entitled to demand that the compensation be reduced (abatement) or that the contract be revoked, at its own discretion (withdrawal). After the second repair attempt, the repair shall be deemed unsuccessful unless the manner of the materials, the defect, or some other circumstance would preclude this assessment. Customer shall not have the right to withdraw from the contract in case of a minor violation, in particular for only minor defects.  
If Customer elects to withdraw from the contract due to a defect and after repairs have failed, it shall have no further claims for damages.  
If Customer elects to demand claims for damages after repairs have failed, the goods will remain with Customer if this is reasonable. The claim for damages shall be restricted to the difference between the purchase price and the value of the defective goods. This shall not apply if the contractual violation was malicious.
4. EZset shall not be liable for damages that did not occur to the delivered goods themselves, in particular, EZset shall not be liable for lost profits or other financial losses suffered by Customer.
5. EZset provides no guarantee for natural wear and tear, unsuitable or improper use or conditions, incorrect start-up by Customer or third parties, nor for any reasons lying outside of EZset's sphere of influence and for which EZset is not responsible.
6. The warranty term shall be 12 months, calculated from the transfer of risk.



# Overview Page of All Data

| Function   | Description  | ICbasic       | IC1             | IC2                     | IC3             |
|--|--|---------------|-----------------|-------------------------|-----------------|
| <b>Operation / Features</b>                      |  |               |                 |                         |                 |
| EZclick  | Control the menu using a rotary / push button  | ✓             | —               | —                       | —               |
| EZtouch  | Control the menu using a touchscreen   | —             | ✓               | ✓                       | ✓               |
| EZslide  | Slide the window area using a touchscreen  | —             | —               | —                       | ✓               |
| Monitor  | TFT color monitor size   | 7.0"          | 13.3"           | 13.3"<br>(optional 24") | 17.0"           |
| Operating System                                 | Operating system to control measurement device   | Linux         | Windows 10      | Windows 10              | Windows 10      |
| <b>Device Design</b>                             |  |               |                 |                         |                 |
| Spindle  | SK50 tool holder spindle   | ✓             | ✓               | ✓                       | ✓               |
| Pneum. Spindle Functions                         | 4 x 90° indexing, 360° spindle brake   | ■             | ✓               | ✓                       | ✓               |
| Base Table                                       | Base table in sturdy industrial design   | ■             | ✓               | ✓                       | ✓               |
| Label Printer                                    | Thermal label printer  | ■             | ✓               | ✓                       | ✓               |
| Adapter Tray                                     | For storing adapters   | ■             | ✓               | ✓                       | ✓               |
| <b>Options</b>                                   |  |               |                 |                         |                 |
| Spindle Vacuum                                   | SK50 tool holder spindle vacuum clamp  | ■             | ■               | ■                       | ■               |
| Universal Spindle for Power-Activated Tool Clamp | Power-activated universal tool holder spindle  | —             | ■               | ■                       | ■               |
| Adapter  | Standard selection, further adapters available on request  | ■             | ■               | ■                       | ■               |
| Adapter  | Additional adapter trays on request  | ■             | ■               | ■                       | ■               |
| EZprotection/ EZspindle-protection               | Cover to protect from dust and dirt  | ■             | ■               | ■                       | ■               |
| EZmaintain                                       | Maintenance unit for preparing compressed air for device supply  | ■             | ■               | ■                       | ■               |
| EZturn   | Center height measuring with monochrome camera   | —             | ■               | ■                       | ■               |
| Auto Focus                                       | Automatic focus on the tool cutting edge   | —             | —               | ■                       | ■               |
| <b>Software Functions</b>                        |  |               |                 |                         |                 |
| Dynamic Cross-hair Pointer                       | Dynamic cross-hair pointer for automatic measurements  | ✓             | ✓               | ✓                       | ✓               |
| Cutting Edge Form Recognition                    | Automatic cutting edge form recognition  | ✓             | ✓               | ✓                       | ✓               |
| Cutting Edge Inspection                          | Zoom on the cutting edge in incident light for quality control   | ■<br>12x      | ✓<br>20x        | ✓<br>20x / 38x          | ✓<br>28x        |
| Multi-insert Cutter                              | Software function measuring concentricity and axial runout for multi blade tools                           | ✓             | ✓               | ✓                       | ✓               |
| EZmax  | Software function to determine and measure the tool contour  | ✓             | ✓               | ✓                       | ✓               |
| Zero Point Monitoring                            | Safety inquiry for adapter zero point to prevent machine crashes   | ✓             | ✓               | ✓                       | ✓               |
| EZstart  | Software function for quickly measuring standard tools   | —             | ✓               | ✓                       | ✓               |
| Adapter Management                               | Save and manage adapter data like zero points  | ✓<br>99       | ✓<br>99         | ✓<br>99                 | ✓<br>999        |
| Tool Management                                  | Save tool data   | ■             | ✓<br>3000       | ✓<br>3000               | ✓<br>15000      |
| Online Help                                      | Integrated help texts  | ✓             | ✓               | ✓                       | ✓               |
| EZnavigator                                      | Compass needle – easily position the camera to measure target values on the tool                           | ■             | ✓               | ✓                       | ✓               |
| Graphics Library                                 | Graphical representations of tools   | —             | —               | —                       | ✓               |
| Tooling Sheets                                   | Create and save tool lists   | —             | —               | —                       | ■               |
| Projector Function                               | Switch over to projector function with cross-hair pointer  | ■             | ✓<br>adjustable | ✓<br>adjustable         | ✓<br>adjustable |
| <b>Data output</b>                               |  |               |                 |                         |                 |
| Label Printer                                    | Print out thermal labels   | ■             | ✓               | ✓                       | ✓               |
| List Printing                                    | Print out DIN A4 reports and more  | —             | ✓               | ✓                       | ✓               |
| USB  | USB 2.0 interface, data output via USB   | ✓<br>1 pieces | ✓<br>4 pieces   | ✓<br>4 pieces           | ✓<br>4 pieces   |
| LAN / Network                                    | Data output through network connection   | —             | —               | ■                       | ■               |
| COM / Serial                                     | Data output through RS232 interface  | ✓             | ✓               | ✓                       | ✓               |
| to the CNC machine controller                    | Measured values and tool data output from IC2 / IC3 tool management to the CNC machine                     | —             | —               | ■                       | ■               |
| and to controller through the Network            | Software for tool management and measured value transmission to customer's separate PC through the network | ■             | ■               | ■                       | ■               |
| »zidCode«  | Tool identification and data output without network connection   | —             | —               | ■                       | ■               |

✓ standard   ■ optional   — not available

## EZset GmbH & Co. KG

Tool presettters

Zeppelinstraße 10

74385 Pleidelsheim

Germany

Tel. +49 7144 897170 0

Fax +49 7144 897170 299

info@EZset.info

www.EZset.info



Profit from  
**superior technology**  
for an unbeatable price!

Precisely adjusted tools

Optimized machine service lives

No scrap

TBEZset.03-EN/Technical Last changed 01.2018 (ICbasic\_1.4.1 IC1/IC2/IC3 1.16.01)  
We reserve the right to make technical changes

**EZset**<sup>®</sup>  
tool setup made easy



www.ezset.info