

# LYNDEX NIKKEN



THE PERFECT CONSTRUCTION KIT FOR USERS AND INTEGRATORS

## EZ-COB - for Machine Loading



With our **large selection of proven components**, you can put together your own personal automation solution.



All components are perfectly matched to each other.

**No adjustments** or further engineering required.



Short delivery time enables you to boost production quickly with a **ready-to-use solution**.

# EZ-COB - The Concept

The EZ-COB construction kit -  
Effective automation with the Smart Hub

## The robot as part of automation

Automation is not only on everyone's minds, but is also necessary in many areas in order to be competitive in the coming years.

However, the robot or cobot is not the same as automation. It is only one of the necessary building blocks.

## Necessary building blocks for effective automation

In addition, the automation specialist needs a base module on which the robot is mounted, storage facilities to hold blank parts, vises or pallets, and a wide range of peripherals. First and foremost, there are grippers, couplings and automatic clamping devices for the components to be processed.

## Job management: efficient control of robot programs

The machine tool must also be started by the automation, the door must be opened and last but not least, the automation must know when the machining cycle is finished.

Although it is possible to write a separate robot program for each individual automation job, it is simpler and more effective to have a job management system that manages and controls a wide variety of robot programs via parameters.

## Safety aspects in automation

Once the hardware and software construction is complete, the question of safety arises. The operator is responsible for the overall safety assessment, including all components. This is exactly where the EZ-COB construction kit can help.



# Your Entry into Automation

Our starter package for you: EZCOB-NACHI-BASE-L



Mobile rack can be exchanged with pallet truck.



View with open fence.

## Complete robot cell

- Incl. zero point clamping system with 4 pots
- Incl. pneumatic vise and gripper jaws
- Incl. door drive for automatic opening of your machine tool
- Incl. software for intuitive programming of the EZ-COB
- Incl. job management
- Incl. double gripper for gripping the blank parts
- Incl. protective housing

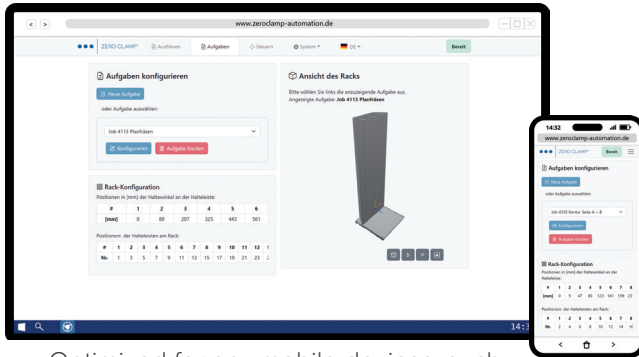


View into the machine.

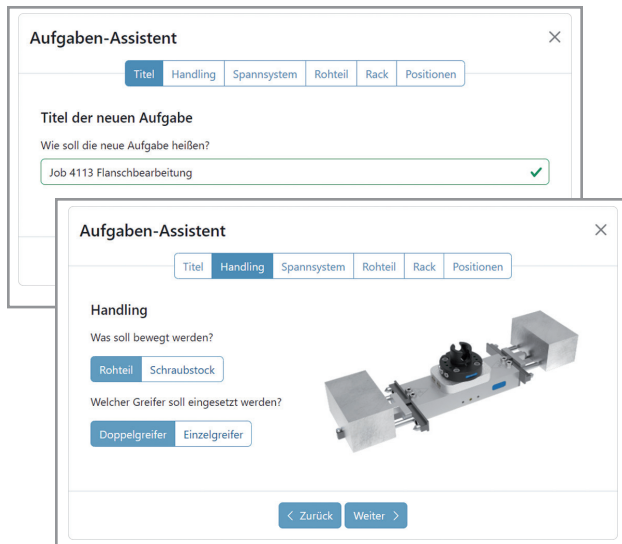


# EZ-COB - The Software

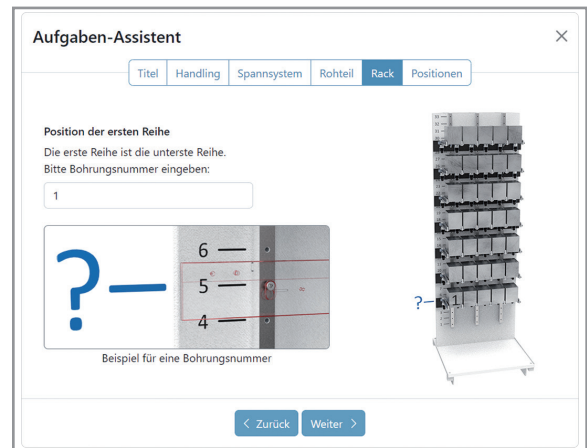
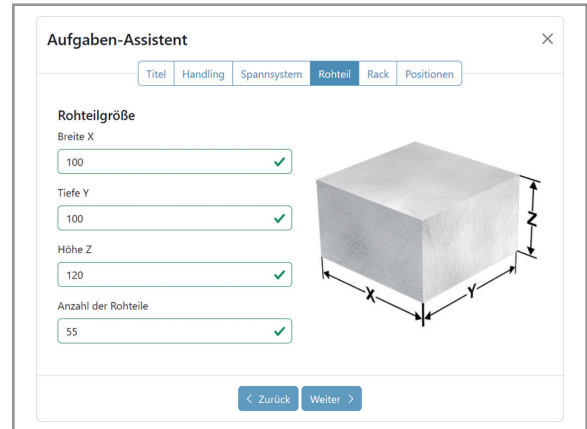
Efficient loading with menu-guided assistant: Create new loading jobs quickly and conveniently on any terminal.



Optimized for any mobile devices, such as notebooks, tablets or smartphones.



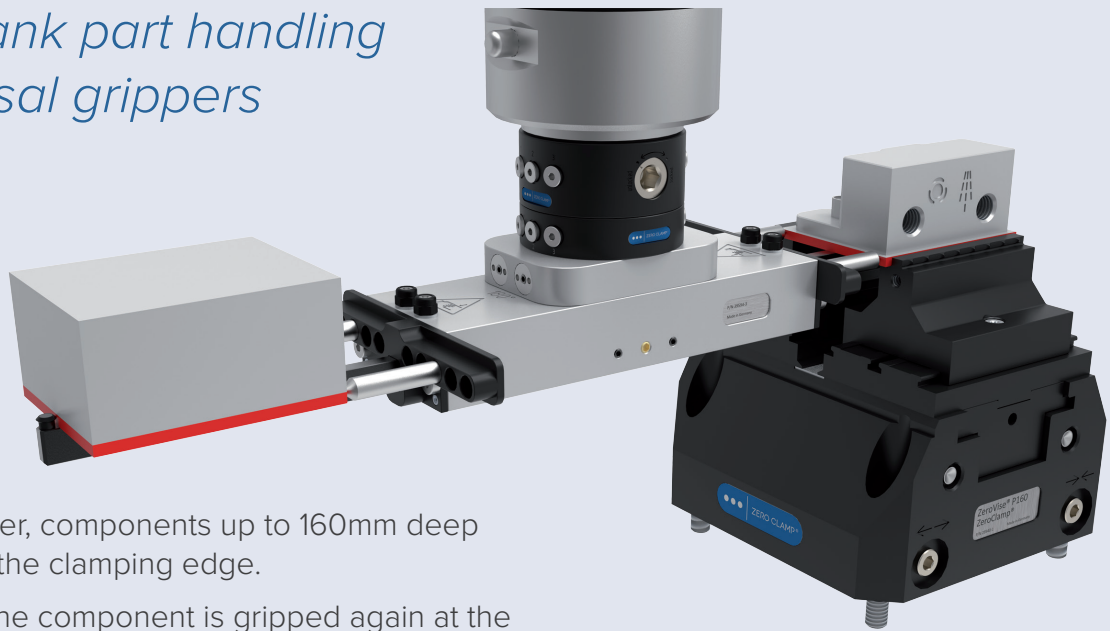
With the help of a menu-guided assistant, you can create new loading jobs quickly and conveniently.



An integrated wizard calculates the optimal rack layout and positions fully automatically by entering the blank part dimensions only. The holding brackets can then be positioned using a quick-change system.



## *Efficient blank part handling with universal grippers*



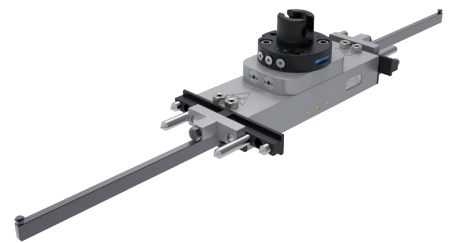
With a single gripper, components up to 160mm deep can be gripped at the clamping edge.

After processing, the component is gripped again at the clamping edge with the same gripper and removed from the clamping device.

This means that no special component-specific jaws are required.

### **Double gripper, Part No. EZCOB-EOAT-BLNK-DBL**

- Grips components from below at the clamping edge
- Grippers for component depths up to 160mm
- Automatic adaptation to component depth
- Adjustable support pins for different component widths
- Pneumatic actuation
- Blow-off function on the underside
- Docking port for air transfer to the machine-side clamping device (if no clamping device actuation is possible in the machine)
- Low own weight of 1.6 kg
- Air transfer lance Part No. 40413 is required to control the vises EZCOB-EOAT-ACC-AIRN





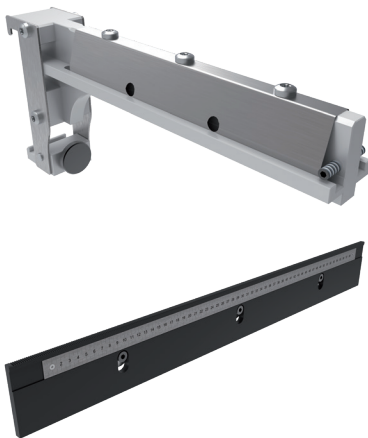
**Parallel gripper, Part No. EZCOB-EOAT-UNVS**

- 1.9 kN at 6 bar
- 12mm stroke
- Spring closing with 0.4 kN
- Clamping range adjustable
- Gripper fingers can be individually manufactured by the operator



**Grooved bar and gripper finger for parallel gripper, Part No. EZCOB-EOAT-UNVS-FNGS / EZCOB-EOAT-UNVS-GBAR**

- Standard gripper fingers and toothed grooved bar
- With an adjustment possibility of 50mm in diameter
- Toothing 1.5mm



**Bracket, Part No. EZBOT-ACC-BRCK-BLNK and holder bar, Part No. EZBOT-ACC-BRCK-BAR Set (1x holder bar plus 6x bracket), Part No. EZBOT-ACC-BRCK-SET**

- For perfect blank part storage in the rack
- Depending on the width of the component, the brackets can be positioned on the holder bars in a very short time using a quick-change system
- Serration and scale for easy and accurate positioning
- Up to 15 brackets can be used per holder bar
- Blank widths between 25 and 600mm, blank depth up to 160mm
- Holder bars are fixed in the rack in a vertical grid (50mm step)



**ZeroVise® P100 IoT, Part No. WH-ZV-P100IOT-UBP / WH-ZV-P100IOT-ZBP**

- High clamping force of 24 kN at 9 bar
- Clamping range 10-90mm, with jaw extension, the clamping range is extended up to 170mm
- Clamping stroke 6mm
- With AirCell accumulator, clamping is possible without permanent air pressure
- With the optional WLAN hub, wireless clamping pressure monitoring is possible
- Power supply via exchangeable LI-ION batteries, charger included
- Part No. WH-ZV-P100IOT-UBP for direct mounting on the machine table or an intermediate plate
- Part No. WH-ZV-P100IOT-ZBP with base plate for zero point clamping system (e.g. Part No. WH-ZP120-BASE4-AUTO)

## ZeroVise® P100, Part No. WH-ZV-P100 / WH-ZV-P100-ZBP

- High clamping force of 24 kN at 9 bar
- Clamping range 10-90mm, with jaw extension, the clamping range is extended up to 170mm
- Clamping stroke 6mm
- Clamping with permanent air pressure
- Part No. WH-ZV-P100 for direct mounting on the machine table or an intermediate plate
- Part No. WH-ZV-P100-ZBP with base plate for zero point clamping system (e.g. Part No. WH-ZP120-BASE4-AUTO)



## Grip jaw set 80/100, Part No. WH-ZV80-JAWS-R87

- With grip serration for direct pick-up of the component without pre-gripping
- For ZeroVise® P100/P100 IoT



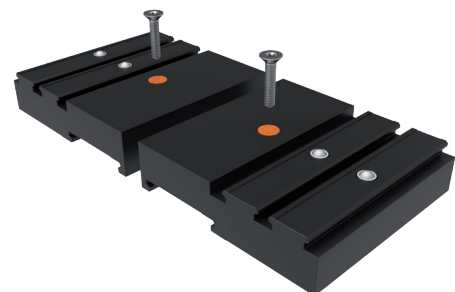
## Jaw set 80/100 carbide coated, Part No. WH-ZV80-JAWS-F87

- Carbide coating, grain size approx. 400 to increase the friction value when clamping the component
- For ZeroVise® P100/P100 IoT



## Jaw adapter 80/100, Part No. WH-ZV80-JAWS-EXT

- To extend the clamping range to 170mm
- For ZeroVise® P100/P100 IoT







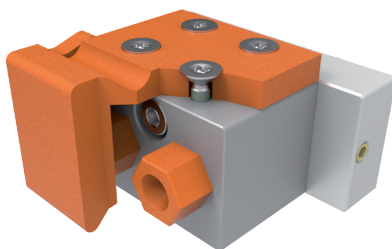
**ZeroVise® P160 IoT,  
Part No. WH-ZV-P160IOT-UBP / WH-ZV-P160IOT-ZBP**

- High clamping force of 48 kN at 9 bar
- Clamping range 10-130mm, with jaw extension, (Part No. WH-ZV160-JAWS-EXT) the clamping range is extended up to 250mm
- Clamping stroke 8.5mm
- With AirCell accumulator, clamping without permanent air pressure is possible
- With the optional WLAN hub, wireless clamping pressure monitoring is possible
- Power supply via exchangeable LI-ION batteries, charger included
- Part No. WH-ZV-P160IOT-UBP for direct mounting on the machine table or an intermediate plate
- Part No. WH-ZV-P160IOT with base plate for zero point clamping system (e.g. Part No. WH-ZP120-BASE4-AUTO)



**ZeroVise® P160,  
Part No. WH-ZV-P160/WH-ZV-P160-ZBP**

- High clamping force of 48 kN at 9 bar
- Clamping range 10-130mm, with jaw extension, (Part No. WH-ZV160-JAWS-EXT) the clamping range is extended up to 250mm
- Clamping stroke 8.5mm
- Clamping with permanent air pressure
- Part No. WH-ZV-P160 for direct mounting on the machine table or an intermediate plate
- Part No. WH-ZV-P160-ZBP with base plate for zero point clamping system (e.g. Part No. WH-ZP120-BASE4-AUTO)

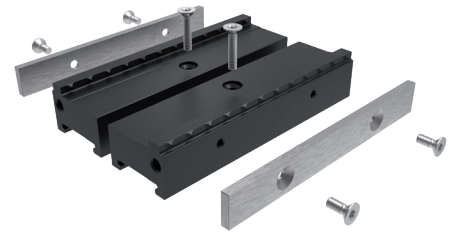


**Connection block horizontal,  
Part No. WH-ZV-ACC-AIRP-H**

- To operate the ZeroVise® IoT versions via the robot gripper

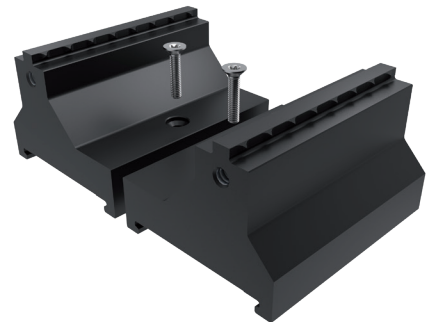
## Grip jaw set 160, Part No. WH-ZV160-JAWS-R130-H15-SET3

- Consisting of 3 pairs of jaws
- With grip serration for direct pick-up of the component without pre-gripping
- Width 120mm, height 15mm
- For ZeroVise® P160/P160 IoT



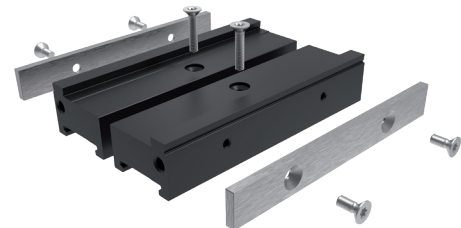
## Grip jaw set 160, Part No. WH-ZV160-JAWS-R130-H40-SET6

- Consisting of 6 pairs of jaws
- With grip serration for direct pick-up of the component without pre-gripping
- Width 80mm, height 40mm
- For ZeroVise® P160/P160 IoT



## Jaw set 160 carbide coated, Part No. WH-ZV160-JAWS-F130-SET3

- Consisting of 3 pairs of jaws
- Carbide coating, grain size approx. 400
- To increase the friction value when clamping the component
- For ZeroVise® P160/P160 IoT



## Jaw adapter 160, Part No. WH-ZV160-JAWS-EXT

- To extend the clamping range to 250mm
- For ZeroVise® P160/P160 IoT

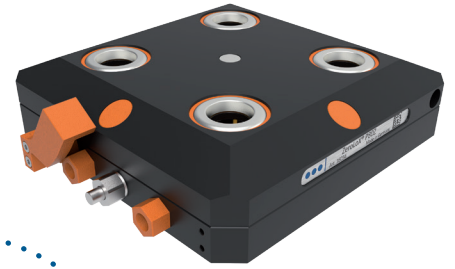


# The EZ-COB Components for Vise Handling

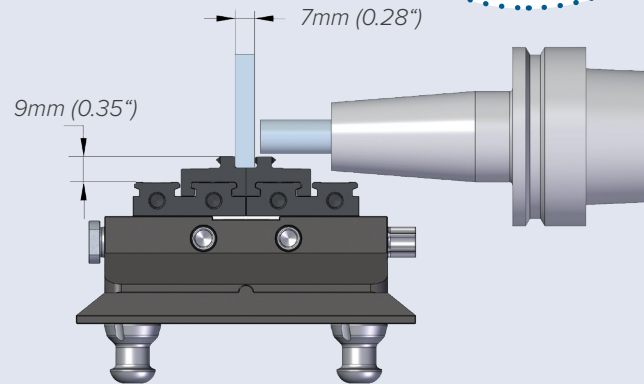
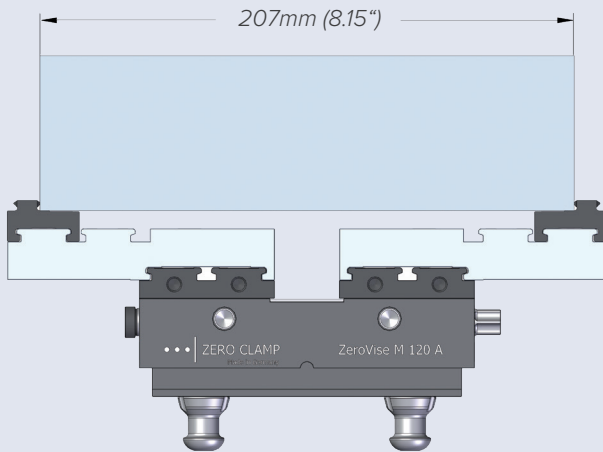
The ZeroLoX® P80Z zero point clamping console provides a universal interface for **high-precision clamping of vises, pallets and workpieces** in seconds.

Optimal in combination with the ZeroVise® automation vises.

With adapter plates, however, vises from other manufacturers can also be used.



**Now with ball pressure quick change system!**



## Best accessibility

The centric clamps are extremely compact, weighing only 3.5 or 5.2 kg.

### Accessibility without interfering contours

The use of reversible quick-change jaws, which are used in 2 different positions, ensures a large clamping range and good accessibility without interfering contours with minimum base body size.

## Low costs, high cutting speed

This allows the use of short, stable standard tools and thus low costs, high cutting speeds and good surface quality.



## Maximum economic efficiency



### Chip nests are a thing of the past!

The ZeroVise® M80/M120 series is uncompromisingly designed for economy.

With reversible jaws and jaw adapters, clamping ranges up to 167mm respectively 207mm are covered. No additional vise sizes required.

Spindle, centering and inner guides are completely covered and the outer contour is designed so that there are no chip nests.

Time-consuming cleaning after use and problems with chips in the area of the spindle and guides are now a thing of the past.

*Reduction of cleaning time by 15 hours per year - per vise!*

### EXAMPLE:

*A standard open vise is used 300 times a year. With only 3 min. cleaning time, this adds up to 900 min. or 15 hours per year per vise.*

You can certainly make better use of this time.

## ZeroLoX® P80Z, Part No. WH-ZLOX-P80Z/WH-ZLOX-P80Z-125BPR

- Clamping console for automation vises
- Patented zero point technology with highest accuracy and rigidity
- Thermal symmetry to the center
- Repeatability < 2.5 µm
- High clamping forces of 50 kN
- Compact, low-profile design with a height of only 40mm
- Pneumatic control from front or bottom possible
- Part No. WH-ZLOX-P80Z for direct mounting on the machine table or an intermediate plate
- Part No. WH-ZLOX-P80Z-125BPR with base plate for zero point clamping system (e.g. Part No. WH-ZP120-BASE4-AUTO)





**ZeroVise® M80A, Part No. WH-ZV-M80A**

- Encapsulated automation vise, jaw width 80mm
- Weight only 3.5 kg
- Centric clamping of blanks and workpieces
- Center settings adjustable, centering accuracy  $\pm 0.02\text{mm}$
- Clamping force 17 kN, jaw stroke 22mm, clamping range 7-87mm
- With jaw extension, the clamping range is extended up to 167mm
- Jaw quick-change system with ball pressure element



**Grip jaw set 80/100, Part No. WH-ZV80-JAWS-R87**

- With grip serration for direct pick-up of the component without pre-gripping



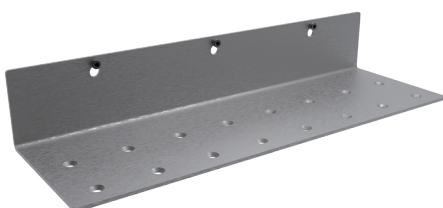
**ZeroVise® M120A, Part No. WH-ZV-M120A**

- Encapsulated automation vise, jaw width 120mm
- Weight only 5.3 kg
- Centric clamping of blanks and workpieces
- Center settings adjustable, centering accuracy  $\pm 0.02\text{mm}$
- Clamping force 25 kN, jaw stroke 27mm, clamping range 7-107mm
- With jaw extension, the clamping range is extended up to 207mm
- Jaw quick-change system with ball pressure element



**Grip jaw set 120, Part No. WH-ZV120-JAWS-R107**

- With grip serration for direct pick-up of the component without pre-gripping

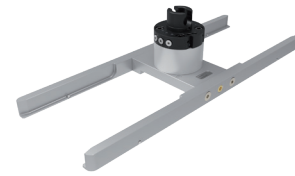


**Shelf for ZeroVise® M80/120A  
Part No. EZBOT-ACC-BRCK-M80/120A**

- Tray for ZeroVise® automation vises
- Vertical mounting possible every 50mm
- Predefined positions through grid
- Max. 4 vises per shelf

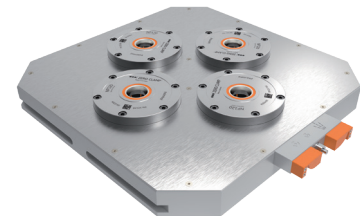
## Clamping device gripper M80/120A Part No. EZCOB-EOAT-ZV-M80/120A

- Suitable for ZeroVise® size M80A and M120A
- No additional pneumatics required for operation
- Air transfer lance Part No. EZCOB-EOAT-AIRN-P80Z is optionally required to control ZeroLoX® P80Z



## Zero point clamping system 200/4 Part No. WH-ZP120-BASE4-AUTO

- Universal zero point clamping system for setting up different clamping devices without loss of time
- 4 x 25 kN holding force, cross stitch dimension 200mm
- HSK principle and thermal symmetry, repeatability < 2.5 µm
- Clamping via permanently acting spring mechanism
- Fixing in 63mm, 100mm and 125mm grid with T-slot blocks or via clamping claws
- Suitable for almost every machine table
- Release pneumatically (min. 6 bar)



## Clamping bolt 18M16 Part No. WH-ZP120-STUD-18M16

- For use with ZeroVise® and ZeroLoX® series base plates



## Door Drive 1300, Part No. EZCOB-ACC-ADOOR

- Retrofittable automatic and safe door opening
- Up to 1300mm wide doors (other sizes on request)
- Actuation through the automation
- Manual operation via push-button possible
- For single and symmetrical double doors



## Safety enclosure (included with base unit)

- Visually appealing safety enclosure made of stainless steel with transparent plastic panes
- Minimum space requirement and interference-proof, as no open sides need to be monitored with area scanners
- A 2-wing roller door allows the operating area in front of the machine to be opened completely quickly and easily





# The EZ-COB Components at a Glance - Blank Part Handling



## EZ-COB basic module (included with base unit)

- Consisting of a stable and solid base for holding the robot and the robot control unit



## Storage rack (included with base unit)

- Mobile storage rack with several vertically arranged levels
- Either centric clamps or blanks can be placed in each level of the rack with the corresponding holders
- When using additional racks, the rack in the basic module can be changed quickly and easily with a pallet truck



## Smart Hub (included with base unit)

- Job management for blanks and vises for both single and double grippers
- Clamping device and gripper management
- Control of suitable actuators and evaluation of sensors either via WLAN or discrete I/Os
- 16 digital inputs and outputs
- 4 analog inputs and outputs
- 3 relay outputs
- 3 RS485 interfaces for parameterization of the sensors for detection of the machine light
- Connection to the robot controller via Ethernet



## Smart Operator, Part No. EZCOB-ACC-SOPRT

- Starting the machine tool via the cycle start button on the control panel
- Is placed on the control panel of the machine tool
- Control from the Smart Hub via WLAN
- Lower part available to fit various control systems

### Sensor machine light, Part No. EZCOB-ACC-OPTR

- Detection of the operating status of the machine tool via optical reading of the signal lamp
- Detection of the RGB color tone and/or switching of the light
- Parameterization and connection via Smart Hub



### Quick release coupling complete, Part No. EZCOB-EOAT-QC-SET

- 6 pneumatic channels
- Coupling for quick change of different grippers
- Operation with hexagonal key, opening/closing via a 90° turn of the hexagonal key
- Total weight only 430 grams

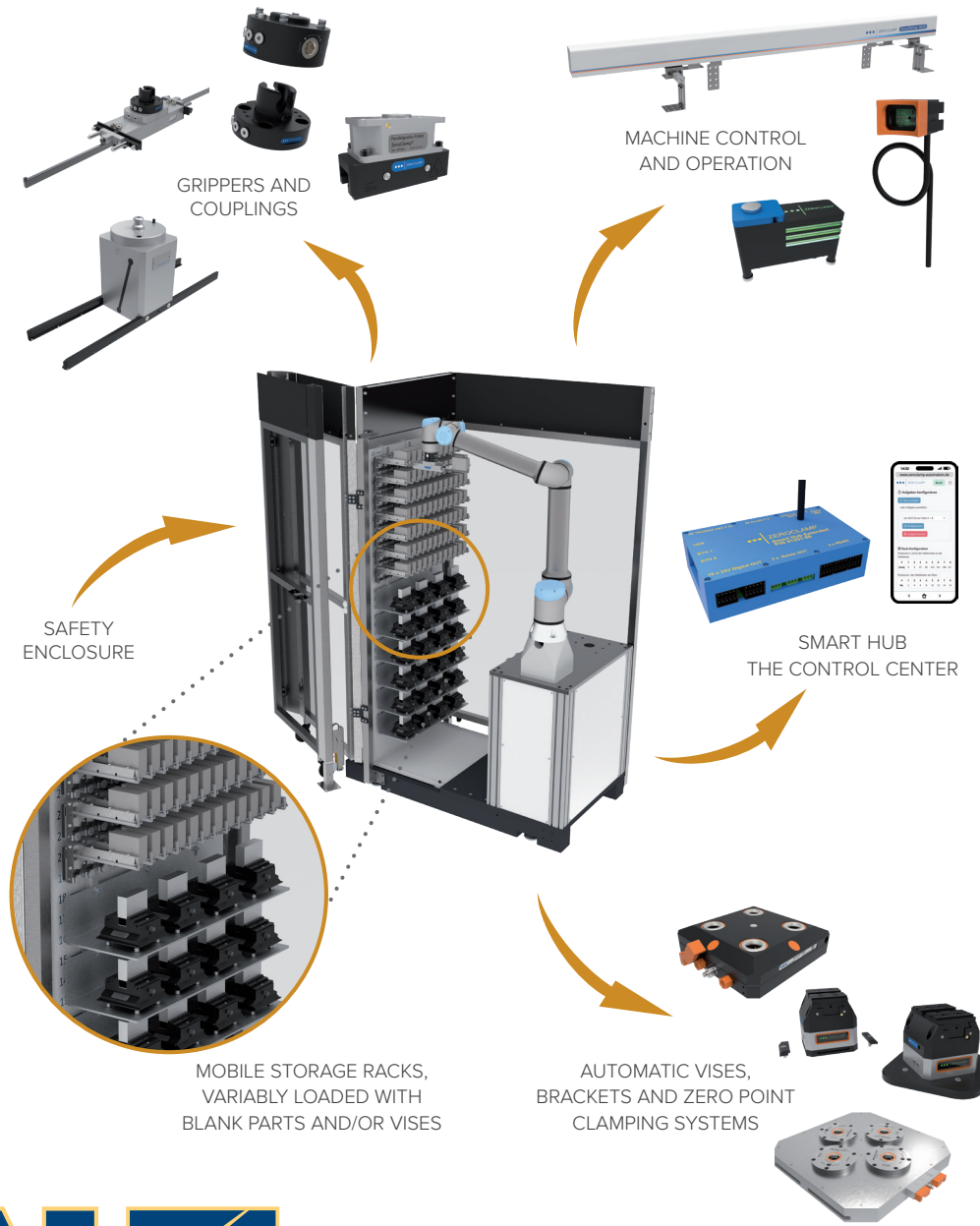


### Coupling module gripper side, Part No. EZCOB-EO-AT-QC-ADPT

- For additional grippers
- Own weight only 140 grams



# The EZ-COB Construction Kit and its Components



1468 Armour Boulevard | Mundelein, IL 60060  
Phone: 847.367.4800 | Fax: 847.367.4815 | sales@lyndexnikken.com  
lyndexnikken.com

