LYNDEX NIKKEN

THE PERFECT CONSTRUCTION KIT FOR USERS AND INTEGRATORS

EZ-COB - for Machine Tending

*With our **large selection of proven components**, you can put together your own personal machine tending 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 machine tending with the Smart Hub

The robot as part of machine tending

Machine tending 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 machine tending. It is only one of the necessary building blocks.

Necessary building blocks for effective machine tending

In addition, the machine tending 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.

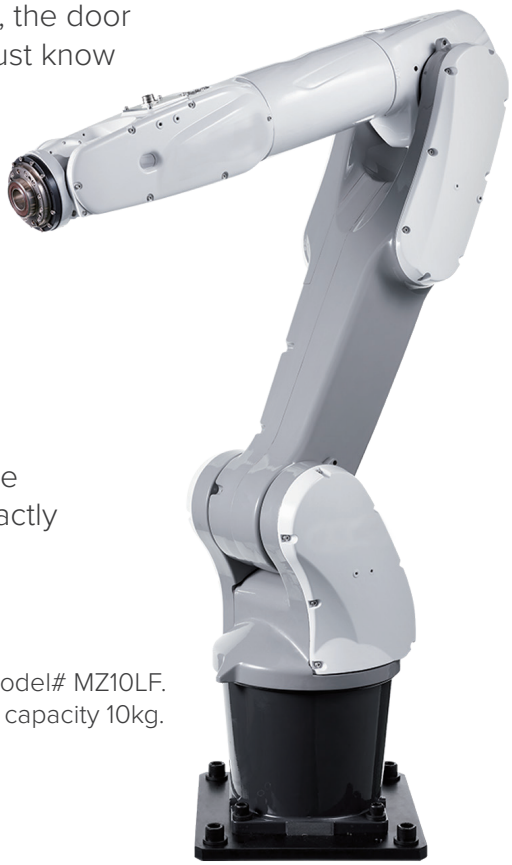
Job management: efficient control of robot programs

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

Although it is possible to write a separate robot program for each individual machine tending 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 machine tending

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.



Nachi model# MZ10LF.
Payload capacity 10kg.

Your Entry into Machine Tending

Complete Tending Solution:

- Nachi industrial robot-10 kg capacity
- High part counts storage rack
- Full protective enclosure on roller
- Intuitive programming of the EZ-COB and job management
- Double-sided gripper for quick exchange
- Smart Hub and Smart Operator for DYI or professional installation
- System can quickly setup between vises or blank handling
- Optional QC ZeroPoint clamping system for receivers

Scan to view the machine tending interactive presentation.

Mobile 'storage' rack can be exchanged with pallet truck.

View with opened enclosure. Fully protected enclosure on roller.

View into the machine. Capable of tending blank part or vise.

EZ-COB Starter Packages for Vise & Blank Handling

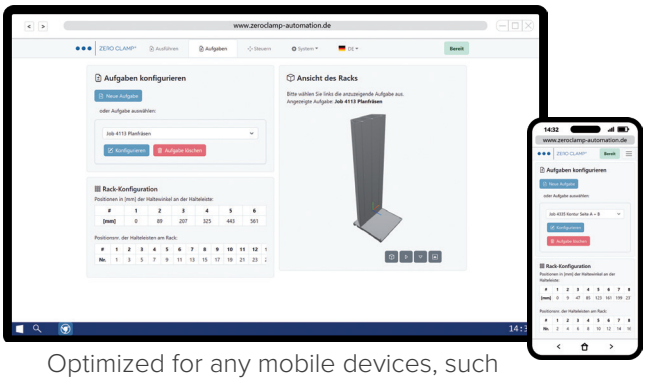
COMPLETE MACHINE TENDING CELL (INCLUDED ACCESSORIES)*

	PART#: EZCOB-NACHI-BLNK	PART#: EZCOB-NACHI-VISE
1	Nachi industrial robot 10 kg cap	
2	Robot base and control unit	
3	Protective enclosure	
4	1 storage rack	
5	Smart hub for device management	
6	Software for intuitive programming of the EZ-COB	
7	Smart operator (hard-wired)	
8	Double active gripper for blanks handling	9 Double gripper for vise handling
10	5 bracket sets holding up to 25 blank parts	11 10 M80A self-centering vise

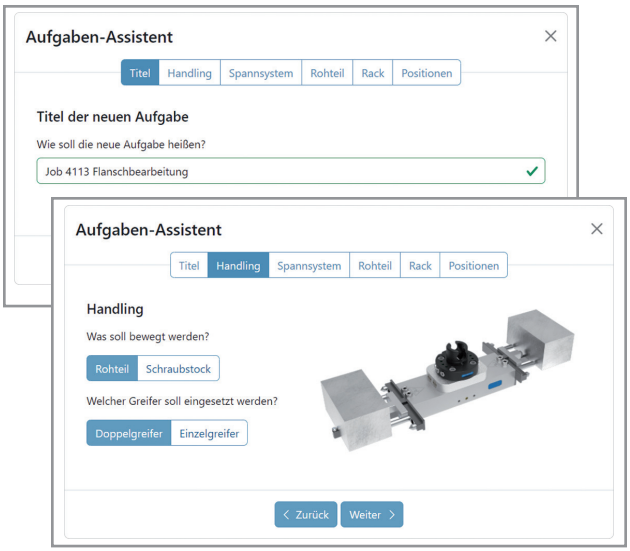
*Not including autodoor, installation and interface (quote separately).
*Pneumatic vise (P100/160) & ZLOX base are sold separately.

EZ-COB - The Software

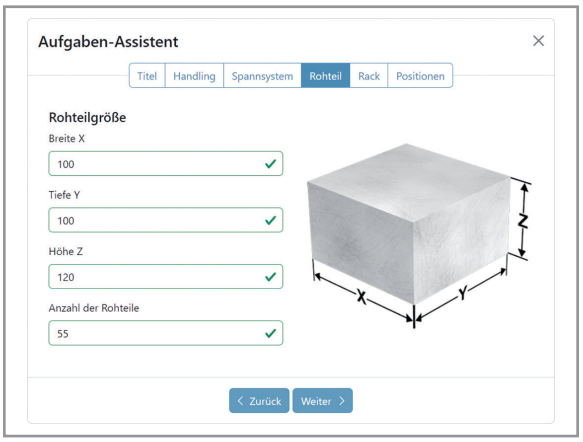
Efficient loading with menu-guided assistant: Create new loading jobs quickly and conveniently on any terminal.

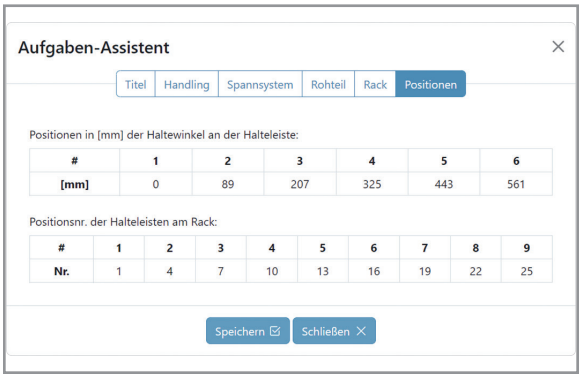


Optimized for any mobile devices, such as notebooks, tablets or smartphones.



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





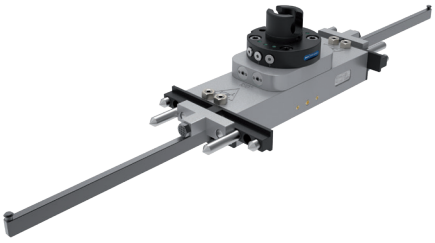
An integrated wizard calculates the optimal rack layout and positions fully automatically by entering the blank part dimensions only. The holding brackets can then be positioned using a quick-change system.

EZ-COB Components for Blank Handling

With a single gripper, components up to 160 mm 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.



EZCOB-EOAT-BLNK-DBL

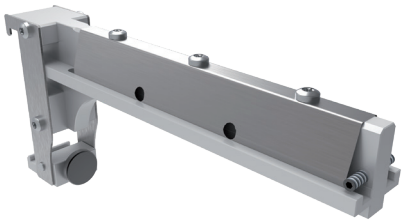
Double gripper (included with blank tending package)

- Grips components from below at the clamping edge
- Grippers for component depths up to 160 mm
- 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 weight of 1.6 kg
- Air transfer lance EZCOB-ACC-EOAT-AIR2 is required to control the vises ZeroVise P100/160Iot

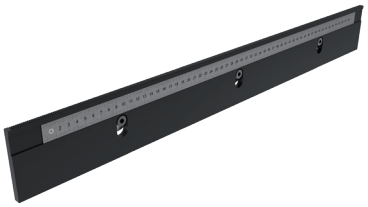
Blank part bracket set (included with blank tending package)

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 600 mm, blank depth up to 160 mm
- Holder bars are fixed in the rack in a vertical grid (50 mm step)



EZBOT-ACC-BRCK-BLNK



EZBOT-ACC-BRCK-BAR

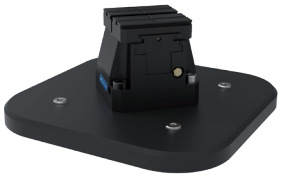
ZeroVise® P100 IoT Part No. WH-ZV-P100IOT-UBP / WH-ZV-P100IOT-ZBP

- High clamping force of 24 kN at 9 bar
- Clamping range 10-90 mm, with jaw extension, the clamping range is extended up to 170 mm
- Clamping stroke 6 mm
- 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) See page 14

WH-ZV-P100IOT-UBP

WH-ZV-P100IOT-ZBP

WH-ZV-P100



WH-ZV-P100-ZBP

ZeroVise® P100

- High clamping force of 24 kN at 9 bar
- Clamping range 10-90 mm, with jaw extension, the clamping range is extended up to 170 mm
- Clamping stroke 6 mm
- 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)
See page 14

WH-ZV80-JAWS-R87

Grip jaw set 80/100

- With grip serration for direct clamping of component without pre-stamp
- For ZeroVise® P100/P100 IoT

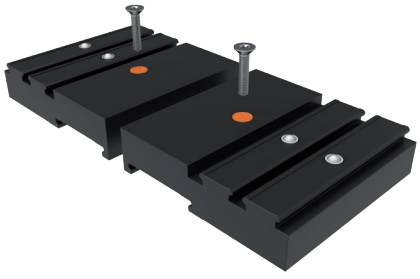
**Visit lyndexnikken.com for additional jaws.*

WH-ZV80-JAWS-F87

Jaw set 80/100 carbide coated

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

**Visit lyndexnikken.com for additional jaws.*



WH-ZV80-JAWS-EXT

Jaw adapter 80/100

- Extension jaw clamping range 87-167 mm/ 3.43-6.57"
- For ZeroVise® P100/P100 IoT

**Visit lyndexnikken.com for additional jaws.*

ZeroVise® P160 IoT

- High clamping force of 48 kN at 9 bar
- Clamping range 10-130 mm, with jaw extension, (Part No. WH-ZV160-JAWS-EXT) the clamping range is extended up to 250 mm
- Clamping stroke 8.5 mm
- 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) See page 14

WH-ZV-P160IOT-UBP

WH-ZV-P160IOT-ZBP

ZeroVise® P160

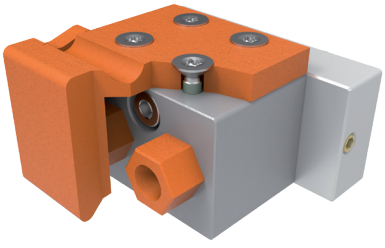
- High clamping force of 48 kN at 9 bar
- Clamping range 10-130 mm, with jaw extension, (Part No. WH-ZV160-JAWS-EXT) the clamping range is extended up to 250 mm
- Clamping stroke 8.5 mm
- Clamping with permanent air pressure
- Part No. WH-ZV-P160 for direct mounting on the machine table or an intermediate plate
- Part No. WH-ZV-P160-ZBP with base plate for zero point clamping system (e.g. Part No. WH-ZP120-BASE4-AUTO) See page 14

WH-ZV-P160

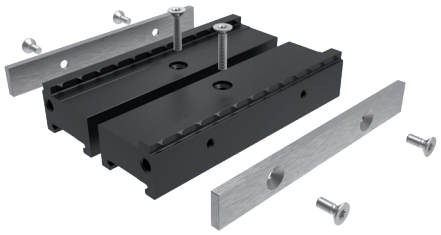
WH-ZV-P160-ZBP

Connection block horizontal

- Mounted on the side of IoT Aircell to operate the ZV pneumatic vise (P100/P160) via robot gripper air transfer lance



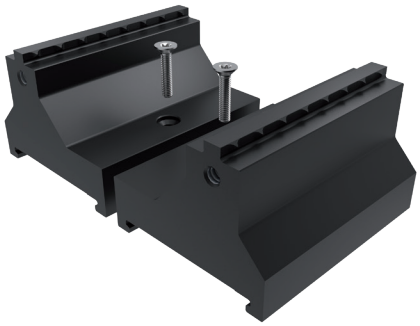
WH-ZV-ACC-AIRP-H



WH-ZV160-JAWS-R130-H15-S3

Grip jaw set 160

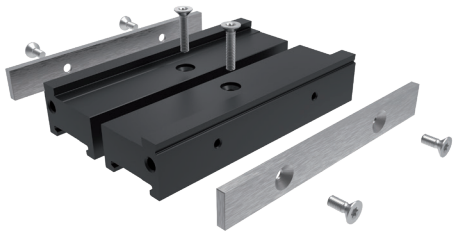
- Consisting of 3 pairs of jaws
- With grip serration for direct pick-up of the component without pre-gripping
- Width 120 mm, height 15 mm
- For ZeroVise® P160/P160 IoT



WH-ZV160-JAWS-R130-H40-S6

Grip jaw set 160

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



WH-ZV160-JAWS-F130-SET3

Jaw set 160 carbide coated

- 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

WH-ZV160-JAWS-EXT

Jaw adapter 160

- Extension jaw clamping range: 130-250 mm/5.12-9.84"
- For ZeroVise® P160/P160 IoT

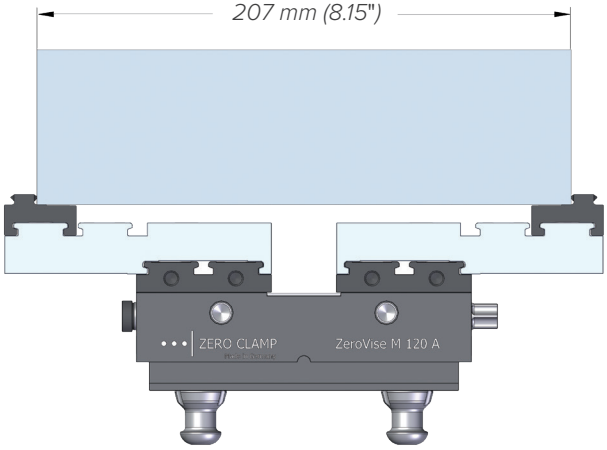
EZ-COB Components for Vise Handling

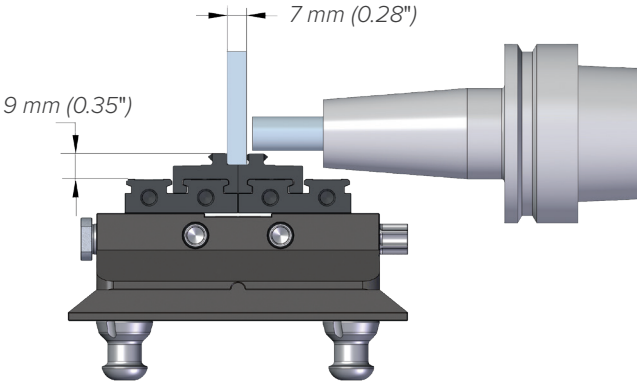
The ZeroLoX® P80Z and P96Z zero point clamping console provides a universal interface for **high-precision clamping of vises, pallets and workpieces** in seconds.

Optimal in combination with the ZeroVise® automation vises.

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

NEW **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 167 mm respectively 207 mm 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.

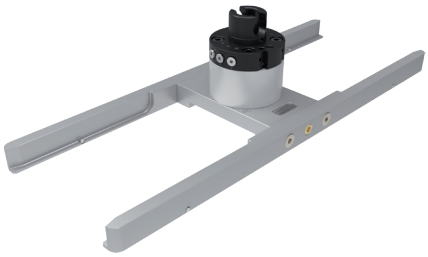
Time-consuming cleaning after use and problems with chips in the area of the spindle and guides are now a thing of the past.

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.



EZCOB-EOAT-VISE

Clamping device gripper M80/120A (included with vise tending package)

- 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

ZeroLoX® P80Z

- 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 40 mm
- 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)

**ZLOX-P96Z console available for vise with 96 mm bolt pattern.*

**Visit lyndexnikken.com for additional riser and baseplate.*

WH-ZLOX-P80Z

WH-ZLOX-P80Z-125BPR

ZeroVise® M80A (included with vise tending package)

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

WH-ZV-M80A

ZeroVise® M120A

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

**Available with 96 mm bolt pattern (Part No. M120A-96.)*

WH-ZV-M120A

WH-ZV80-JAWS-R87

Grip jaw set 80/100

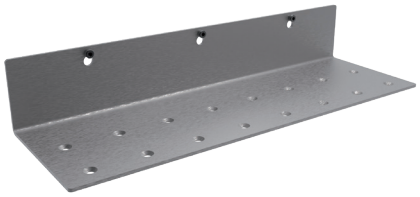
- With grip serration for direct clamping of the component without pre-stamp

WH-ZV120-JAWS-R107

Grip jaw set 120

- With grip serration for direct clamping of the component without pre-stamp

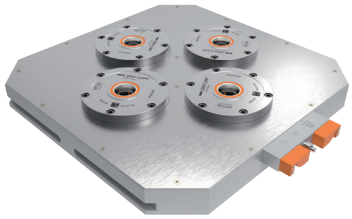
**Visit lyndexnikken.com for additional jaws.*



EZBOT-ACC-BRCK-M80/120A

Shelf for ZeroVise® M80/120A (included with vise tending package)

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



WH-ZP120-BASE4-AUTO

Zero point clamping system 200/4

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

WH-ZP120-STUD-18M16

Clamping bolt 18M16

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

EZ-COB Components at a Glance

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

EZCOB-ACC-ENCL-L

EZ-COB basic module (included with base unit)

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

EZCOB-ACC-BASE

Storage rack (included with base unit)

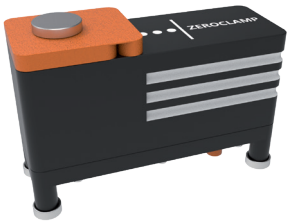
- Mobile storage rack with several vertically arranged levels
- Either centric clamps or blanks can be placed in each level of the rack with the corresponding holders
- When using additional racks, the rack in the basic module can be changed quickly and easily with a pallet truck

EZCOB-ACC-STOR-RCK

EZCOB-ACC-HUB

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



EZCOB-ACC-SOPRT

Smart operator (included with base unit)

- 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 hard-wired
- Lower part available to fit various control systems

MZ10LF

Nachi industrial robot

- 10 kg payload and 1202 mm reach with 55 kg body weight
- 6 axis articulating industrial robot
- IP 67 equivalent (dustproof, moisture resistant)
- Slim design, hollow wrist – space-saving

LYNDEX-NIKKEN

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