



ZERO CLAMP®
Experience precision

THE PERFECT CONSTRUCTION KIT FOR VERSED USERS AND CLEVER INTEGRATORS

ZEROCOB® - 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.**



In the shortest possible time, you will receive a **ready-to-use solution** with which you can become productive.



ZEROCOB® - The Concept

The ZEROCOB® construction kit - Effective automation with the ZeroClamp® 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 programmes

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 programme 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 programmes 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 CE, including all components. The individual declarations of incorporation of the components are only required to achieve this CE.

This is exactly where ZeroClamp® comes in with its ZEROCOB® construction kit.



Your Entry into Automation

Our starter package for you: **ZEROCOB® N10**



Mobile rack can be exchanged with pallet truck.



View with open fence.

Complete robot cell

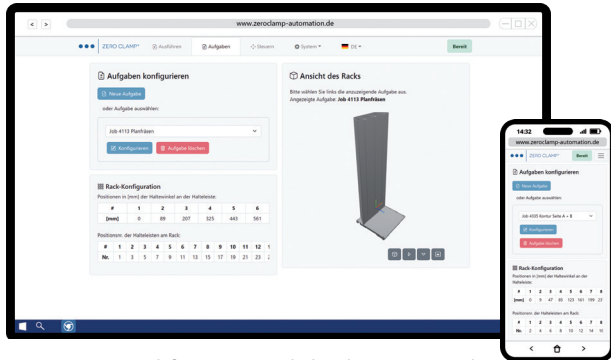
- Incl. zero point clamping system with 4 pots
- Incl. pneumatic vise and gripper jaws
- Incl. door drive for automatic opening of your machine tool
- Incl. software for intuitive programming of the ZEROCOB®
- Incl. job management
- Incl. double gripper for gripping the blank parts
- Incl. protective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



View into the machine.

ZEROCOB® - The Software

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



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

Aufgaben-Assistent

Titel Handling Spannsystem **Rohteil** Rack Positionen

Rohteilgröße

Breite X: 100 ✓

Tiefe Y: 100 ✓

Höhe Z: 120 ✓

Anzahl der Rohteile: 55 ✓

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Aufgaben-Assistent

Titel Handling Spannsystem Rohteil Rack Positionen

Titel der neuen Aufgabe

Wie soll die neue Aufgabe heißen?

Job 4113 Flanschbearbeitung ✓

Aufgaben-Assistent

Titel Handling Spannsystem Rohteil Rack Positionen

Handling

Was soll bewegt werden?

Rohteil Schraubstock

Welcher Greifer soll eingesetzt werden?

Doppelgreifer Einzelgreifer

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Aufgaben-Assistent

Titel Handling Spannsystem Rohteil Rack Positionen

Position der ersten Reihe

Die erste Reihe ist die unterste Reihe.
Bitte Bohrungsnummer eingeben:

1

Beispiel für eine Bohrungsnummer

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Aufgaben-Assistent

Titel Handling Spannsystem Rohteil Rack Positionen

Aufbau des Spannsystems in der Werkzeugmaschine

Auswahl der Basis:

Universal Basis mit 4 Spanntöpfen 120mm #36757

Auswahl des Schraubstocks:

ZeroVise P160 IoT mit Grundplatte TK200/4 #36283

Auswahl des Backenadapterpaars:

Keine

Auswahl der Aufsatzbacken:

HM-Aufsatzbackenset 160 H15 #25371

Z-Höhe des Spannsystems in der Werkzeugmaschine:
244 mm

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Aufgaben-Assistent

Titel Handling Spannsystem Rohteil Rack Positionen

Positionen in [mm] der Haltewinkel an der Halteleiste:

#	1	2	3	4	5	6
[mm]	0	89	207	325	443	561

Positionsnr. der Halteleisten am Rack:

#	1	2	3	4	5	6	7	8	9
Nr.	1	4	7	10	13	16	19	22	25

Speichern ✎ Schließen ✕

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.

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

ZeroClamp® *Efficient blank part handling with universal grippers*



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.

Double gripper, P/N 39594

- 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 own weight of 1.6 kg
- Air transfer lance P/N 40413 is required to control the vises ZeroVise® P100/160 IoT





Parallel gripper, P/N 39718

- 1.9 kN at 6 bar
- 12 mm 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, P/N 41629/41632

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



Bracket, P/N 38910 and holder bar, P/N 38912

Set (1x holder bar plus 6x bracket), P/N 38958

- 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 quickchange 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)



ZeroVise® P100 IoT, P/N 36310/36983

- High clamping force of 24 kN at 9 bar
- Clamping range 10 - 90 mm, with optional jaw adapter pair (P/N 33666) 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
- P/N 36310 for direct mounting on the machine table or an intermediate plate
- P/N 36983 with base plate for ZeroClamp® zero point clamping system (e.g. P/N 36757)

ZeroVise® P100, P/N 34371/36981

- High clamping force of 24 kN at 9 bar
- Clamping range 10 - 90 mm, with optional jaw adapter pair (P/N 33666) up to 170 mm
- Clamping stroke 6 mm
- Clamping with permanent air pressure
- P/N 34371 for direct mounting on the machine table or an intermediate plate
- P/N 36981 with base plate for ZeroClamp® zero point clamping system (e.g. P/N 36757)



Grip jaw set 80/100, P/N 21861

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



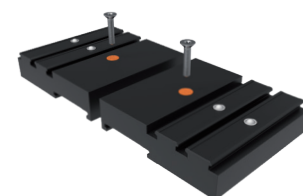
Jaw set 80/100 carbide coated, P/N 21866

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



Jaw adapter 80/100, P/N 33666

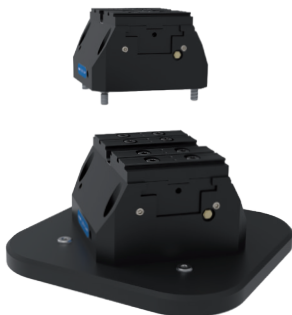
- To extend the clamping range to 170 mm
- For ZeroVise® P100/P100 IoT





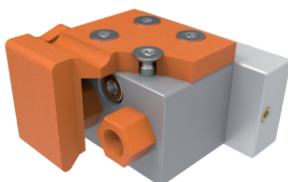
ZeroVise® P160 IoT, P/N 36287/36283

- High clamping force of 48 kN at 9 bar
- Clamping range 10 - 130 mm, with optional jaw adapter pair (P/N 33664) up to 250 mm
- Clamping stroke 8.5 mm
- With AirCell accumulator clamping without permanent air pressure possible
- With the optional WLAN hub, wireless clamping pressure monitoring is possible
- Power supply via exchangeable LI-ION batteries, charger included
- P/N 36287 for direct mounting on the machine table or an intermediate plate
- P/N 36283 with base plate for ZeroClamp® zero point clamping system (e.g. P/N 36757)



ZeroVise® P160, P/N 28940/31310

- High clamping force of 48 kN at 9 bar
- Clamping range 10 - 130 mm, with optional jaw adapter pair (P/N 33664) up to 250 mm
- Clamping stroke 8.5 mm
- Clamping with permanent air pressure
- P/N 28940 for direct mounting on the machine table or an intermediate plate
- P/N 31310 with base plate for ZeroClamp® zero point clamping system (e.g. P/N 36757)

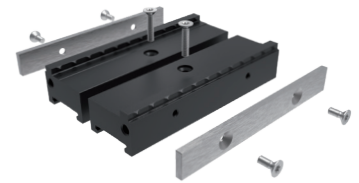


Connection block horizontal, P/N 41789

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

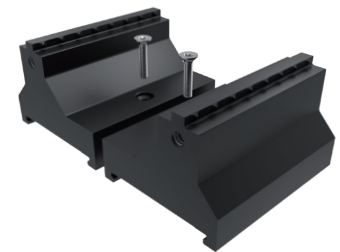
Grip jaw set 160, P/N 24697

- 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



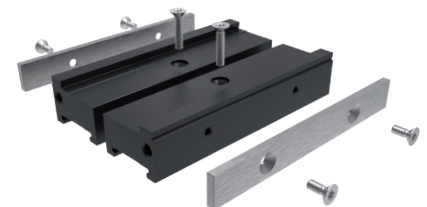
Grip jaw set 160, P/N 23517

- 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



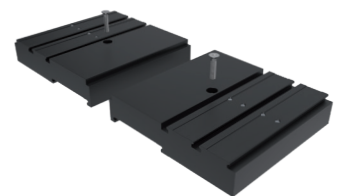
Jaw set 160 carbide coated, P/N 25371

- 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, P/N 33664

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





The ZERO COB® Components for Vise Handling

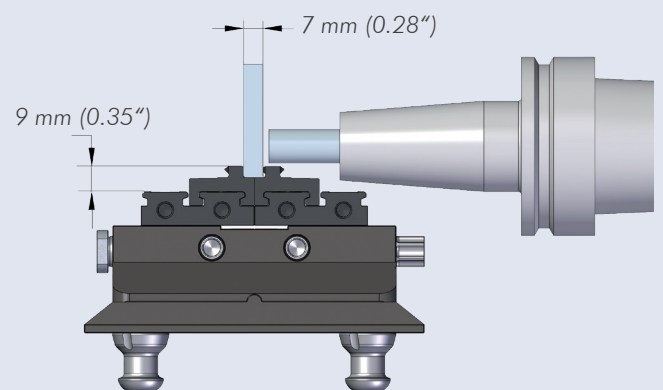
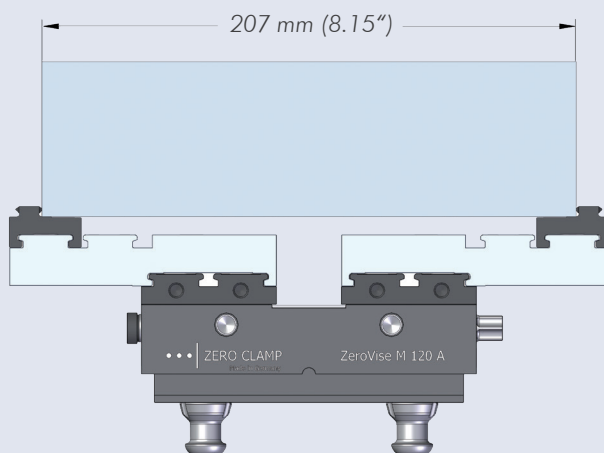
The ZeroLoX® P80Z zero point clamping console from ZeroClamp® provides a universal interface for **high-precision clamping of vises, pallets and workpieces** in seconds.

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 167 mm respectively 207 mm are covered. No additional vise sizes required.

Spindle, centre centring 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, P/N 36056/38889

- Clamping console for ZeroClamp® automation vises
- ZeroClamp® patented zero point technology with highest accuracy and stiffness
- Thermal symmetry to the centre
- 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
- P/N 36056 for direct mounting on the machine table or an intermediate plate
- P/N 38899 with base plate for ZeroClamp® zero point clamping system (e.g. P/N 36757)





ZeroVise® M80A, P/N 31733

- Encapsulated automation vise, jaw width 80 mm
- Weight only 3.5 kg
- Centric clamping of blanks and workpieces
- Centre settings adjustable, centring accuracy ± 0.02 mm
- Clamping force 17 kN, jaw stroke 22 mm, clamping range 7 - 87 mm
- With jaw adapter pair, P/N 33666, the clamping range is extendable up to 167 mm
- Jaw quick-change system with ball pressure element



Grip jaw set 80/100, P/N 21861

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



ZeroVise® M120A, P/N 33225

- Encapsulated automation vise, jaw width 120 mm
- Weight only 5.3 kg
- Centric clamping of blanks and workpieces
- Centre settings adjustable, centring accuracy ± 0.02 mm
- Clamping force 25 kN, jaw stroke 27 mm, clamping range 7 - 107 mm
- With jaw adapter pair, P/N 33667, the clamping range is extendable up to 207 mm
- Jaw quick-change system with ball pressure element



Grip jaw set 120, P/N 22427

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

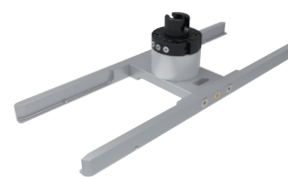


Shelf for ZeroVise® M80/120A, P/N 33109

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

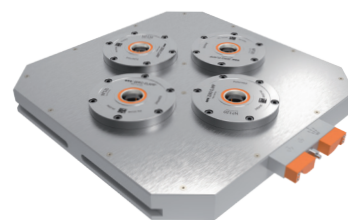
Clamping device gripper M80/120A, P/N 40959

- Suitable for ZeroVise® size M80A and M120A
- No additional pneumatics required for operation
- Air transfer lance P/N 36353 is optionally required to control ZeroLoX® P80Z



Zero point clamping system 200/4, P/N 36757

- 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)



Clamping bolt 18M16, P/N 10004

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



Door Drive 1300, P/N 36770

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



Safety enclosure, P/N 40801

- 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



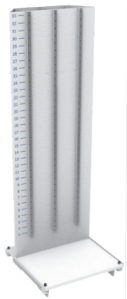


The ZERO COB® Components at a Glance - Blank Part Handling



ZERO COB® basic module, P/N 39779

- Consisting of a stable and solid base for holding the robot and the robot control unit
- Elevation for UR10e, P/N 42017



Storage rack, P/N 42009

- 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



ZeroClamp® Smart Hub, P/N 41251

- 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 analogue inputs and outputs
- 3 relay outputs
- 3 RS485 interfaces for parameterisation of the sensors for detection of the machine light
- Connection to the robot controller via Ethernet



Smart Operator, P/N 41745

- 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 ZeroClamp® Smart Hub via WLAN
- Lower part available to fit various control systems

Sensor machine light, P/N 41683 (41203)

- Detection of the operating status of the machine tool via optical reading of the signal lamp
- Detection of the RGB colour tone and/or switching of the luminaire
- Parameterisation and connection via Smart Hub



Quick release coupling complete, P/N 36923

- 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 gram



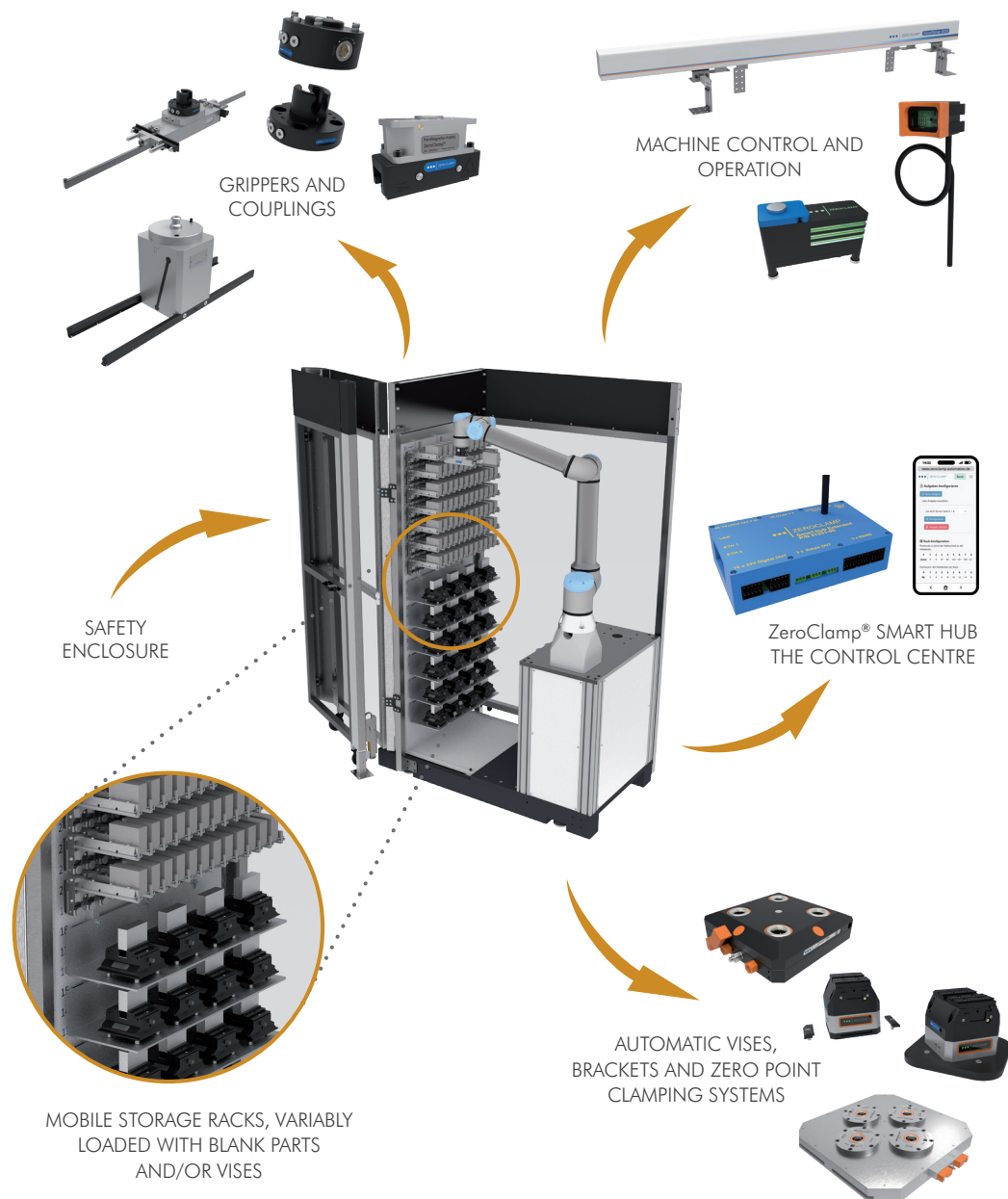
Coupling module gripper side, P/N 36255

- For additional grippers
- Own weight only 140 gram





The ZEROCOB® Construction Kit and its Components



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