



Superior Clamping and Gripping



Product Information

Collaborating gripper for small components Co-act EGP-C 50

Co-act EGP-C

Collaborating gripper for small components

Collaborative. Powerful. Certified.

Co-act EGP-C gripper

Electric 2-finger parallel gripper certified for collaborative operation with actuation via 24 V and digital I/O

Field of application

Gripping and moving small and medium-sized workpieces with flexible force in collaborative operation in the areas of assembly, electronics and machine tool loading.

Advantages – Your benefits

Certified gripping unit saves effort for safety assessment of the application

Functional safety ensured due to inherent safety with current limitation

Pre-assembled gripping unit with robot interface for a easy and fast integration

Plug & Work for a variety of different cobots

Integrated status display For a visual indicator of the application state

Service flaps in the collision protection cover fitted to adjust the gripping force and the sensor system

Control via digital I/O for easy commissioning and rapid integration into existing systems.

Brushless DC servomotor for almost wear-free use and a long service life

Attachment fingers available with three different inserts



Sizes
Quantity: 4



Weight
0.36 .. 1.38 kg



Gripping force
40 .. 230 N



Stroke per jaw
3 .. 10 mm



Workpiece weight
0.2 .. 1.15 kg

Functional description

The Co-act EGP-C gripper is electrically driven and has an integrated current limitation and collision protective cover. The current limitation ensures that the gripping force does not exceed a defined value. The collision

protective cover serves for minimizing the risk of injury during the use in collaborative operations.



- ① **Collision protection**
- ② **Gripper for small components EGP**
- ③ **Flange**
with integrated electronics and cabling
- ④ **LED strip light**
for status display
- ⑤ **Integrated sensor system**
to monitor the jaw position
- ⑥ **Service flap sensor system**
for adjusting the sensor system
- ⑦ **Service flap gripping force**
for adjusting the gripping force

Co-act EGP-C

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Detailed functional description

Observation of the gripping force in collaborative operation



The "gripping force" specification in the catalog refers to the arithmetic sum of the forces acting on each jaw individually at distance P (see illustration). For evaluation of the biomechanical limit values in accordance with ISO/TS 15066, only the gripping force acting on each gripper jaw must be used. Furthermore, the information in the operating manual is referred to.

- 1 Co-act EGP-C gripper
- 2 Gripper jaws (customized)
- 3 Gripping force applied to each gripper jaw
- 4 Workpiece

Simple assembly of the Co-act EGP-C



The Co-act EGP-C gripper was developed for simple assembly on collaborative robots (cobots). During assembly, the enclosed adapter plate has to be fastened with the supplied fastening material to the flange of the cobot. Subsequently, the gripper can be fastened with the enclosed hexagon socket wrench to the adapter flange. Finally, the electric connection (not version KETI) must be established.

- 1 Co-act EGP-C gripper
- 2 Hexagon socket wrench
- 3 Adapter flange
- 4 Mounting material
- 5 Flange of the cobot

Simple plug & work on several cobots



The standard Co-act gripper EGP-C is available for a wide range of collaborative robots (cobots) from a variety of manufacturers including KUKA, Universal Robots and FANUC. The gripper has been pre-configured in a way that it can be mounted directly electrically and mechanically onto the cobots. Depending on the manufacturer, different versions are also available depending on the flange version.

- 1 Co-act-EGP-C gripper to KUKA LBR iiwa
- 2 Co-act EGP-C gripper to FANUC CR-7iA
- 3 Co-act EGP-C grippers to UR

Co-act EGP-C for Universal Robots



For the robots of the manufacturers Universal Robots and Techman Robot, two variants of the Co-act EGP-C gripper are available. The variants -URID or -TMID use the tool interface of the robot for feed-through of the signals to the robot control system. However, this variant does not have a light band. The light band including the free actuation cannot be used for the variant with external cable routing.

- 1 Co-act EGP-C to UR using the tool interface (version-URID)
- 2 Co-act EGP-C to UR with external cable routing (version-UREK)

Ordering example Co-act EGP-C

Co-act EGP - C - 40 - N - N - KTOE

Co-act = Collaborative actuator

Electric Small Parts Gripper EGP

C = DGUV-certified unit

Size

25

40

50

64

N = not used

N = not used

Robot and flange interface

FCR7 = FANUC CR-7 iA | connection via EE interface

KETI = KUKA LBR iiwa | Media flange inside, electrically

KTOE = KUKA LBR iiwa | Media flange touch, electrically

URID = Universal Robots/with feed-through (electr. tool interface)

UREK = Universal Robots/external cabling

TMID = Techman Robot | with feed-through (electr.) tool interface)

TMEK = Techman Robot | external cabling

M1013 = Doosan Robotics

FCRXID = FANUC CRX 10-iA, CRX 10-iA/L | with feed-through (electr. tool interface)

FCRXEK = FANUC CRX 10-iA, CRX 10-iA/L | external cabling

Co-act EGP-C

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General notes about the series

Operating principle: Rack and pinion principle

Housing material: Polyamide with glass fiber additive

Base jaw material: Steel

Actuation: servo-electric, via brushless DC servomotor

Warranty: see assembly and operating manual

Scope of delivery: Accessory pack with adapter flange, mounting material and hexagon socket wrench, assembly and operating manual with declaration of conformity and incorporation, safety information

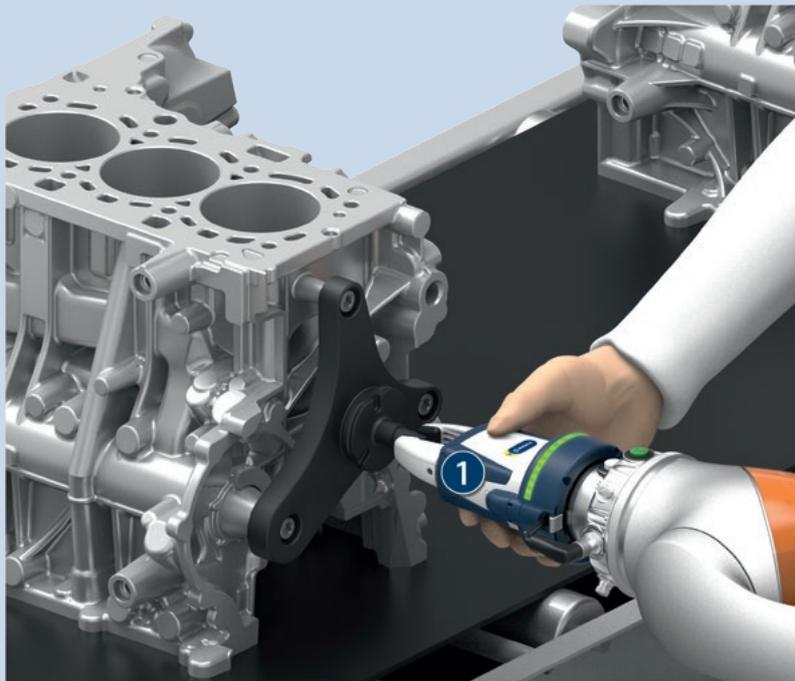
Gripping force: is the arithmetic total of the gripping force applied to each gripper jaw at distance P (see illustration). For more information, see the detailed functional description.

Finger length: is measured from the reference surface as the distance P in direction to the main axis.

Repeat accuracy: is defined as a distribution of the end Position for 100 consecutive strokes.

Workpiece weight: is calculated for force-fit gripping with a coefficient of static friction of 0.1 and a safety factor of 2 against workpiece slippage at acceleration due to gravity g. For form-fit or capture gripping, there are significantly higher permissible workpiece weights. For more information, see assembly and operating manual.

Closing and opening times: are purely the times that the base jaws or fingers are in motion. PLC reaction times are not included in the above-mentioned times and must be taken into consideration when determining cycle times.



Application example

Collaborating gripper unit to support the worker when feeding in and positioning workpieces.

- 1 Collaborating gripper for small components
Co-act EGP-C

SCHUNK offers more ...

The following components make the product Co-act EGP-C even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.



Manual change system



Attachment fingers

① For more information on these products can be found on the following product pages or at schunk.com. Please contact us: SCHUNK technical hotline +49-7133-103-2696

Options and special information

Light band for variants for Universal Robots, Techman Robot and FANUC: Actuation of the light band is possible for the variants –UREK for Universal Robots, –TMEK for Techman Robot, and –FCRXEK for FANUC with external cabling. Digital signals for actuation are not available for the variants –URID, –TMID and –FCRXID. For FANUC (variant –FCR7), use of the light band is possible for direct connection of the gripper to the robot control system. For the connection via the EE interface, the actuation of the light band is not provided.

Manually adjustable gripping force: With an integrated rotary switch, the gripping force can be adjusted for the Co-act EGP-C 40 in four stages from 100%, 75%, 50%, and 25%. To adjust the gripping force, the service flap must be opened.

Integrated sensor system: The gripper has two integrated inductive proximity switches. With them, the "open" and "closed" position of the gripper is monitored as standard. A sensor can alternatively be used depending on the area for workpiece monitoring. For this, the sensor must be manually adjustable. For this, a service flap must be opened for the size 40.

SAC – safety notes: In the enclosed assembly and operating manual, extensive safety notes on the use of the gripper are also included. The instructions also provide information and recommendations on the overall application.

Weight: The weight comprises the entire Co-act gripper including cable and connecting plug.

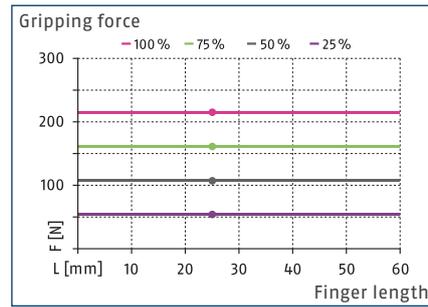
Co-act team: The Co-act team from SCHUNK is available to answer further questions at all times with experts on the topic of human/robot collaboration. You can reach the team at +49-7133-103-3444 or e-mail co-act-team@de.schunk.com.

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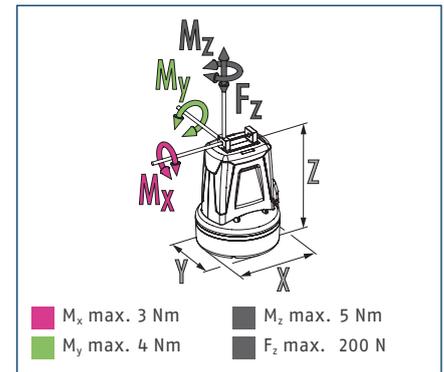
Collaborating gripper for small components



Gripping force



Dimensions and maximum loads



① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

Technical data—Co-act EGP-C for KUKA

Description		Co-act EGP-C 50-N-N-KET1	Co-act EGP-C 50-N-N-KTOE
ID		1326459	1321171
General operating data			
Compatible robot		KUKA LBR iiwa 7/14	KUKA LBR iiwa 7/14
Robot flange		Media flange electric inside	Media flange touch electric
LED strip light		integrated	integrated
Displayable colors		green, yellow, red	green, yellow, red
Integrated sensors		yes, inductive in two directions	yes, inductive in two directions
Dimensions X x Y x Z	[mm]	125.5 x 86.4 x 151	125.5 x 86.4 x 136.5
Mechanical operating data			
Stroke per jaw	[mm]	8	8
Min./max. gripping force	[N]	54/215	54/215
Min./max. force per jaw	[N]	27/107.5	27/107.5
Recommended workpiece weight	[kg]	1.05	1.05
Max. permissible finger length	[mm]	64	64
Max. permissible mass per finger	[kg]	0.14	0.14
Repeat accuracy	[mm]	0.02	0.02
Closing/opening time	[s]	0.21/0.21	0.21/0.21
Weight	[kg]	0.86	0.88
Min./max. ambient temperature	[°C]	5/55	5/55
IP protection class		30	30
Cable connector/cable end			M12
Cable length	[mm]		70
Electrical operating data			
Nominal voltage	[V DC]	24	24
Nominal current	[A]	0.3	0.3
Max. current	[A]	2	2
Controller electronics		integrated	integrated
Number of digital I/O		4/2	4/2

Technical data—Co-act EGP-C for FANUC

Description		Co-act EGP-C 50-N-N-FCR7
ID		1326462
General operating data		
Compatible robot		FANUC CR-7 iA
Robot flange		Standard flange
LED strip light		integrated
Displayable colors		green, yellow, red
Integrated sensors		yes, inductive in two directions
Dimensions X x Y x Z	[mm]	125.5 x 86.4 x 136.5
Mechanical operating data		
Stroke per jaw	[mm]	8
Min./max. gripping force	[N]	54/215
Min./max. force per jaw	[N]	27/107.5
Recommended workpiece weight	[kg]	1.05
Max. permissible finger length	[mm]	64
Max. permissible mass per finger	[kg]	0.14
Repeat accuracy	[mm]	0.02
Closing/opening time	[s]	0.21/0.21
Weight	[kg]	1.22
Min./max. ambient temperature	[°C]	5/55
IP protection class		30
Cable connector/cable end		open wire strands
Cable length	[mm]	4000
Electrical operating data		
Nominal voltage	[V DC]	24
Nominal current	[A]	0.3
Max. current	[A]	2
Controller electronics		integrated
Number of digital I/O		4/2

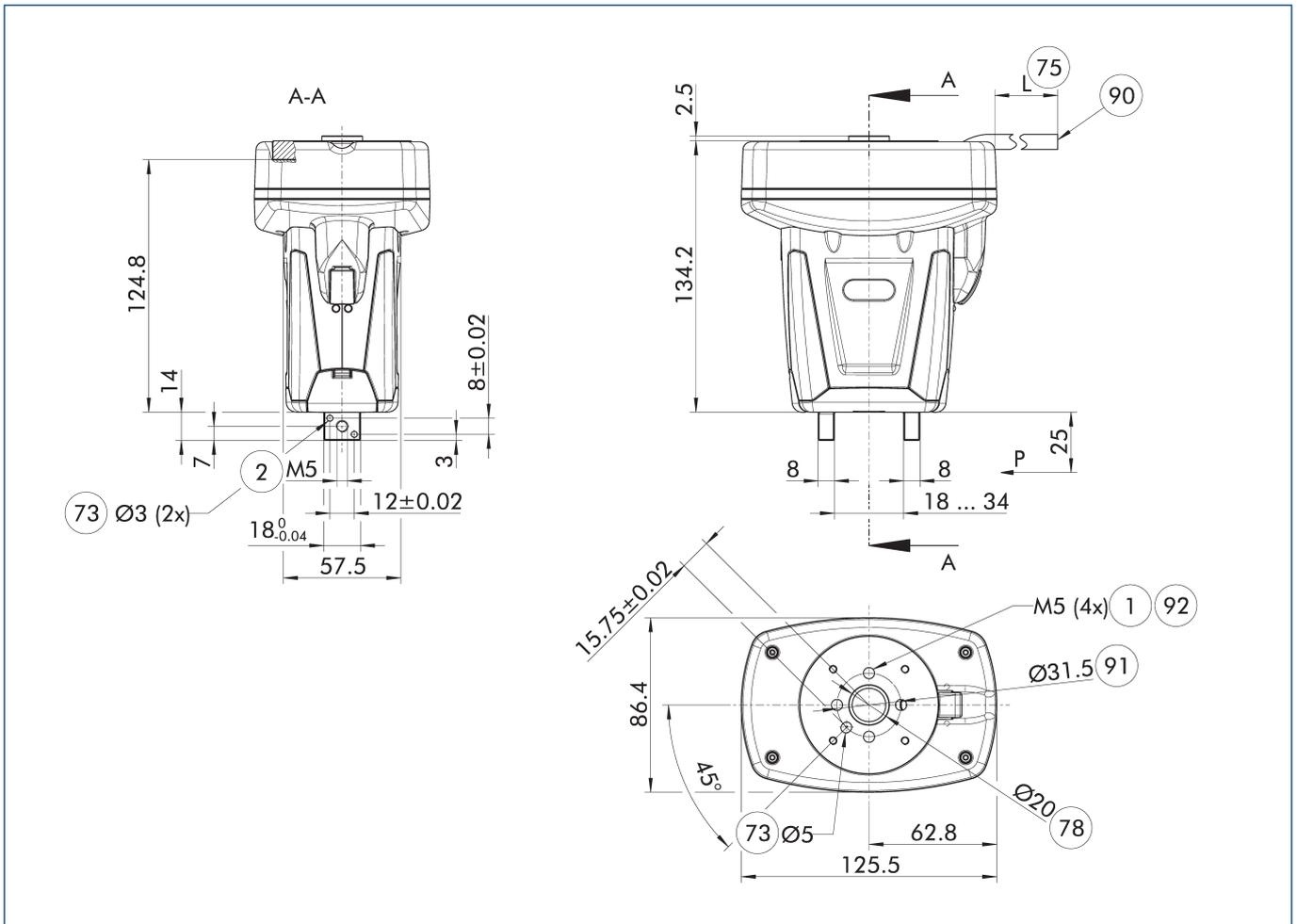
Co-act EGP-C 50

Collaborating gripper for small components

Technical data—Co-act EGP-C for Universal Robots

Description		Co-act EGP-C 50-N-N-UREK
ID		1327884
General operating data		
Compatible robot		UR 3/5/10/16
Robot flange		Standard flange
LED strip light		integrated
Displayable colors		green, yellow, red
Integrated sensors		yes, inductive in two directions
Dimensions X x Y x Z	[mm]	125.5 x 86.4 x 136.5
Mechanical operating data		
Stroke per jaw	[mm]	8
Min./max. gripping force	[N]	54/215
Min./max. force per jaw	[N]	27/107.5
Recommended workpiece weight	[kg]	1.05
Max. permissible finger length	[mm]	64
Max. permissible mass per finger	[kg]	0.14
Repeat accuracy	[mm]	0.02
Closing/opening time	[s]	0.21/0.21
Weight	[kg]	1.22
Min./max. ambient temperature	[°C]	5/55
IP protection class		30
Cable connector/cable end		open wire strands
Cable length	[mm]	4000
Electrical operating data		
Nominal voltage	[V DC]	24
Nominal current	[A]	0.3
Max. current	[A]	2
Controller electronics		integrated
Number of digital I/O		4/2

Main view Co-act EGP-C variant - FCR7



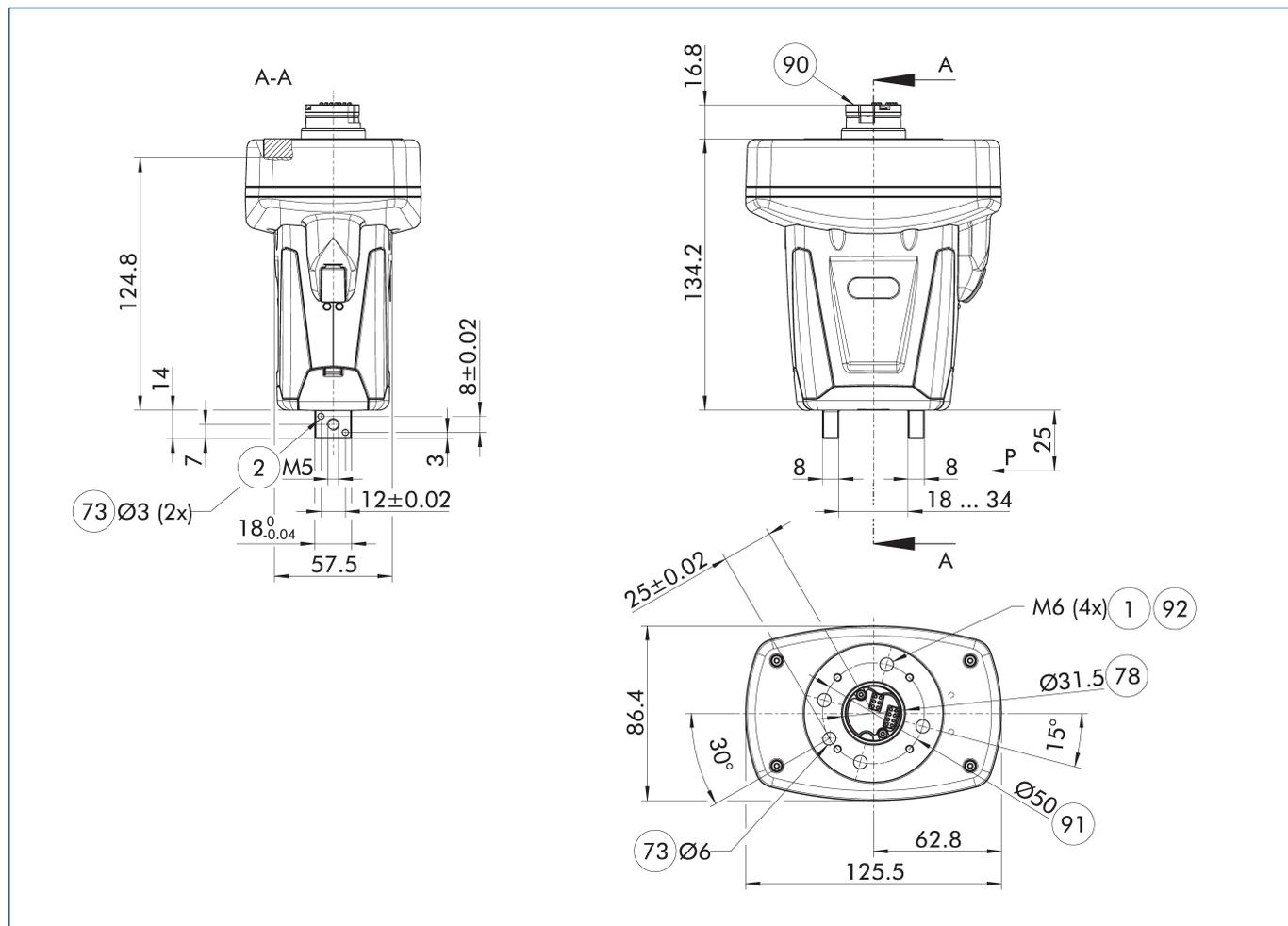
The drawing shows the basic version of the gripper with open jaws.

- | | |
|---------------------------|--|
| ① Gripper connection | ⑦⑧ Fit for centering |
| ② Finger connection | ⑨⑩ open wire strands |
| ⑦③ Fit for centering pins | ⑨① DIN ISO-9409 bolt circle |
| ⑦⑤ Cable length | ⑨② Through holes for screw connections |

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Collaborating gripper for small components

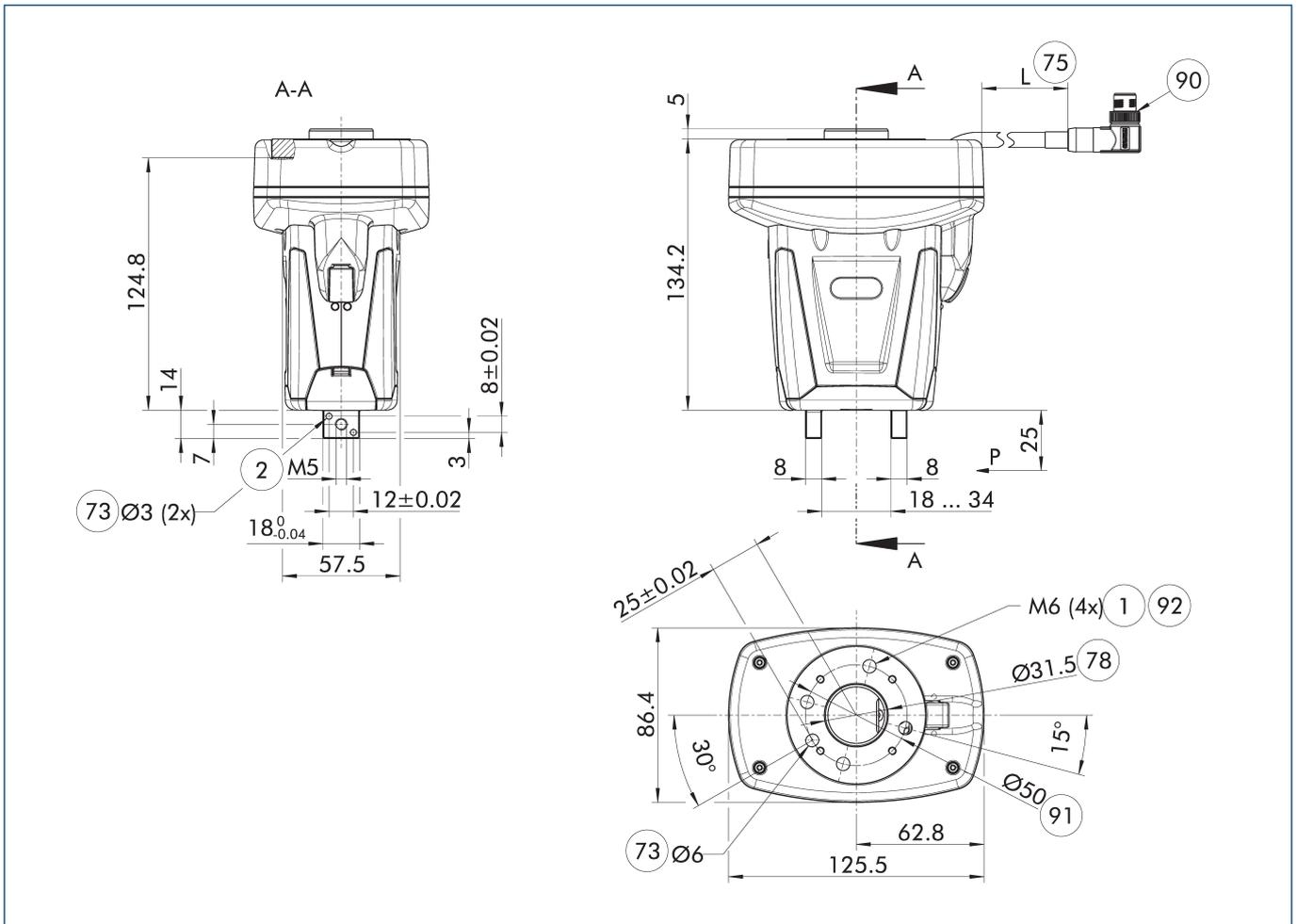
Main view Co-act EGP-C variant - KETI



The drawing shows the basic version of the gripper with open jaws.

- | | |
|---------------------------|--|
| ① Gripper connection | ⑨⑩ KUKA-specific |
| ② Finger connection | ⑨① DIN ISO-9409 bolt circle |
| ⑦③ Fit for centering pins | ⑨② Through holes for screw connections |
| ⑦⑧ Fit for centering | |

Main view Co-act EGP-C variant - KTOE



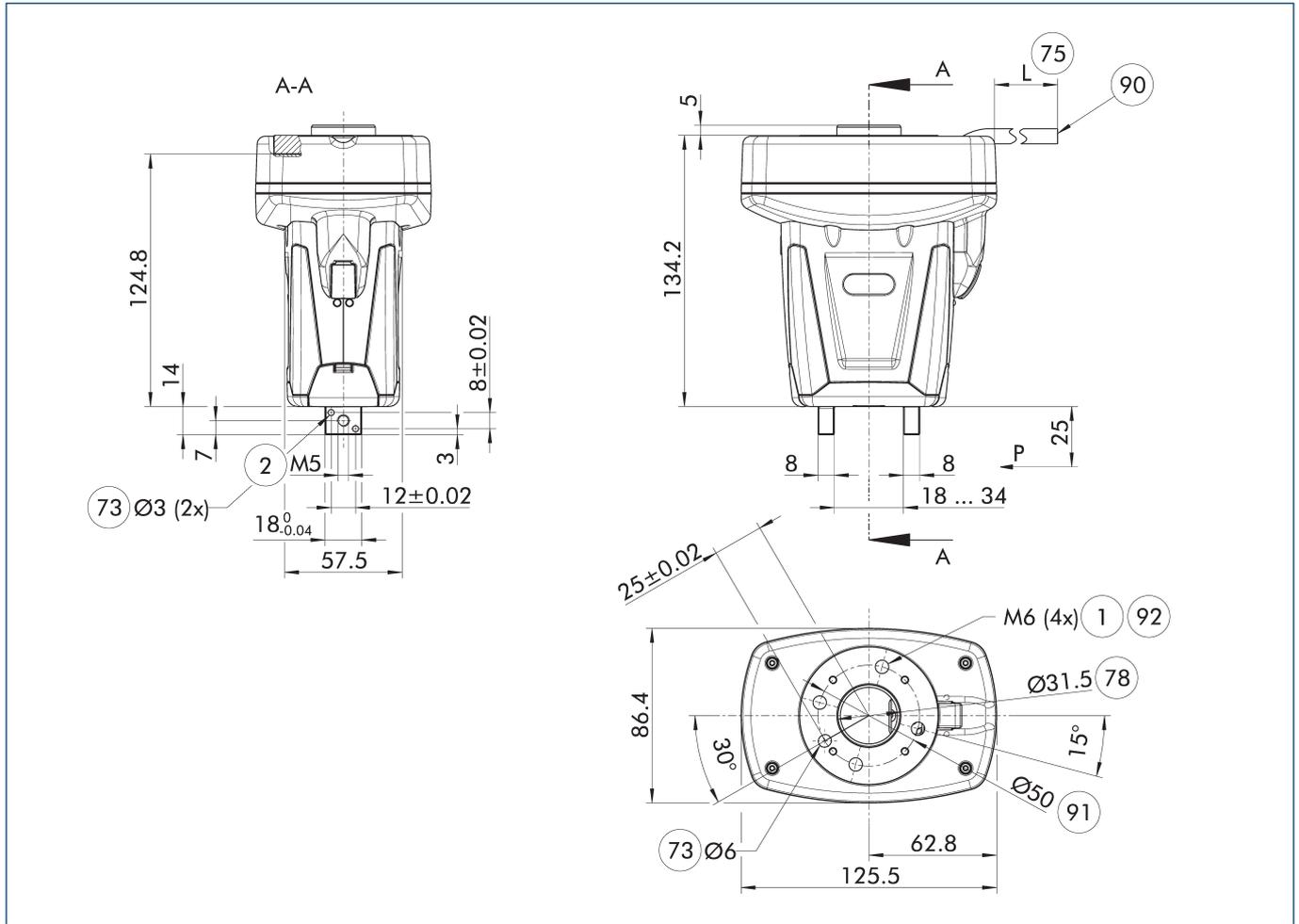
The drawing shows the basic version of the gripper with open jaws.

- | | |
|---------------------------|--|
| ① Gripper connection | ⑦⑧ Fit for centering |
| ② Finger connection | ⑨⑩ M12 connector, 17-pin |
| ⑦③ Fit for centering pins | ⑨① DIN ISO-9409 bolt circle |
| ⑦⑤ Cable length | ⑨② Through holes for screw connections |

Co-act EGP-C 50

Collaborating gripper for small components

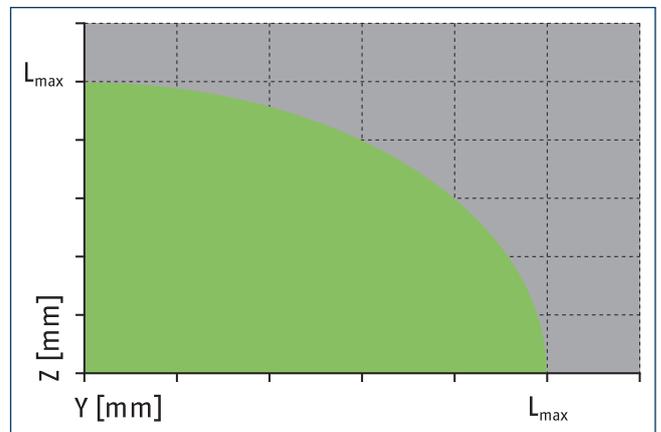
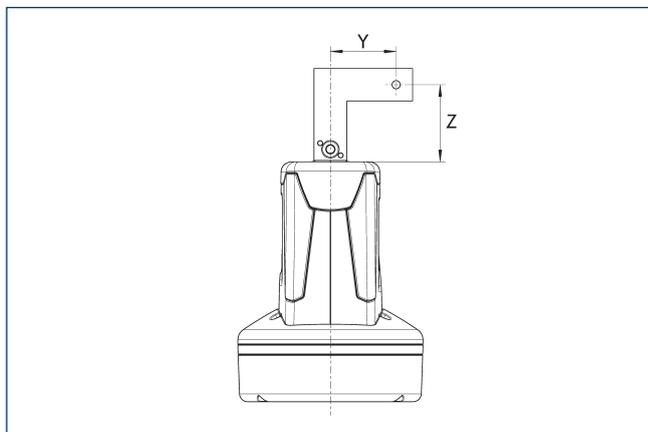
Main view Co-act EGP-C 50-N-N-UREK



The drawing shows the basic version of the gripper with open jaws.

- ① Gripper connection
- ② Finger connection
- ⑦③ Fit for centering pins
- ⑦⑤ Cable length
- ⑦⑧ Fit for centering
- ⑨⑩ open wire strands
- ⑨① DIN ISO-9409 bolt circle
- ⑨② Through holes for screw connections

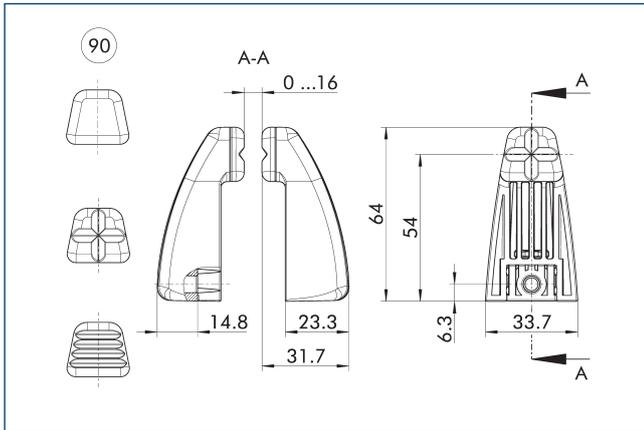
Maximum permitted finger projection



■ Permitted range ■ Inadmissible range

L_{max} is equivalent to the maximum permitted finger length, see the technical data table.

Top jaw AUB Co-act EGP



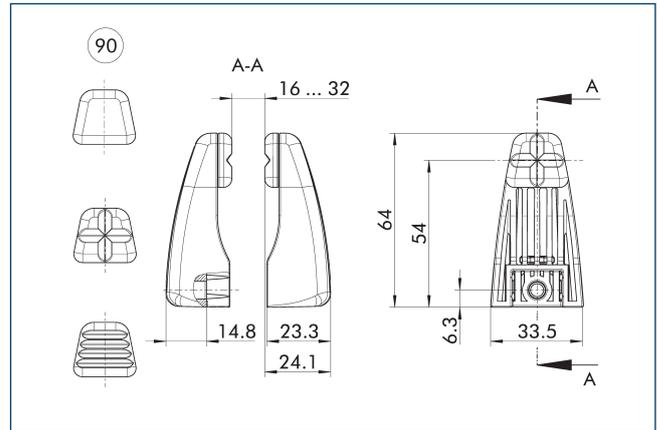
90 Finger inserts

The top jaws are specifically designed for the Co-act EGP gripper. Depending on the size, they are available with varying clamping ranges. Depending on the application and workpiece, one of the supplied finger inserts can be used. The finger inserts are manufactured from rigid or elastic material.

Description	ID	Material
Finger blank		
AUB Co-act EGP 50/16	1401289	PA/TPU

① The scope of delivery includes two top jaws including fastening material. Observe the notes in the Assembly and Operating Manual of the Co-act EGP gripper.

Top jaw AUB Co-act EGP



90 Finger inserts

The top jaws are specifically designed for the Co-act EGP gripper. Depending on the size, they are available with varying clamping ranges. Depending on the application and workpiece, one of the supplied finger inserts can be used. The finger inserts are manufactured from rigid or elastic material.

Description	ID	Material
Finger blank		
AUB Co-act EGP 50/32	1401293	PA/TPU

① The scope of delivery includes two top jaws including fastening material. Observe the notes in the Assembly and Operating Manual of the Co-act EGP gripper.

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Jens Lehmann, German goalkeeper legend, SCHUNK brand ambassador since 2012 for safe, precise gripping and holding.
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