



Superior Clamping and Gripping



Product Information

Collaborating gripper for small components Co-act EGP-C 40

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 on cobots from KUKA, FANUC and Universal Robots

Integrated status display to the visibility of the application state at the operator's eye level

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 EGP-C gripper is available in versions for the collaborative robots (cobots) from the manufacturers KUKA (LBR iiwa), Universal Robots, and FANUC (CR-7iA). 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

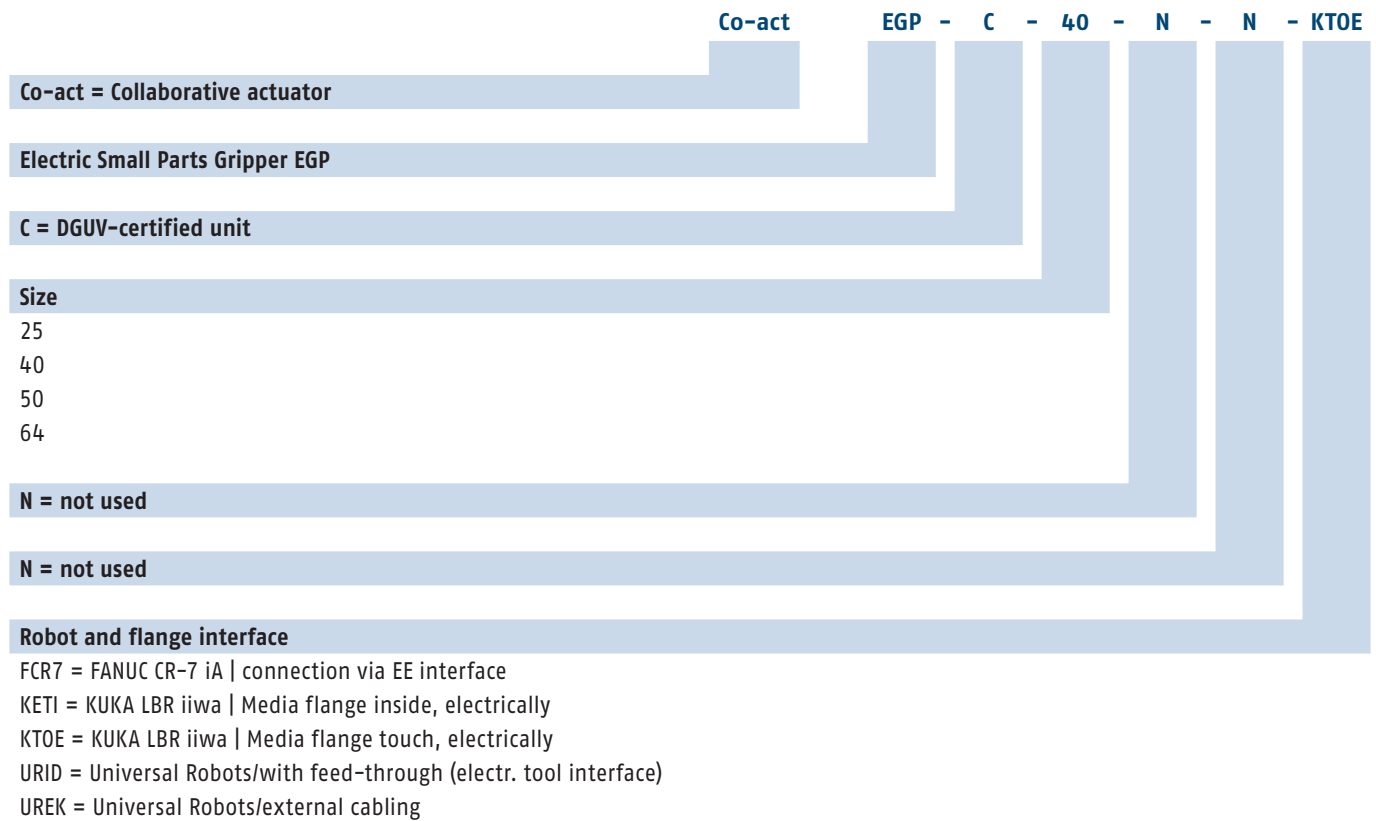
Co-act EGP-C for Universal Robots



For the robots of the manufacturer Universal Robots, two versions of the Co-act EGP-C gripper are available. The -URID version uses the tool interface of the robot for feed-through of the signals to the robot controller. However, this version does not have a light band. The light band including the free actuation cannot be used for the version 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

Collaborating gripper for small components

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

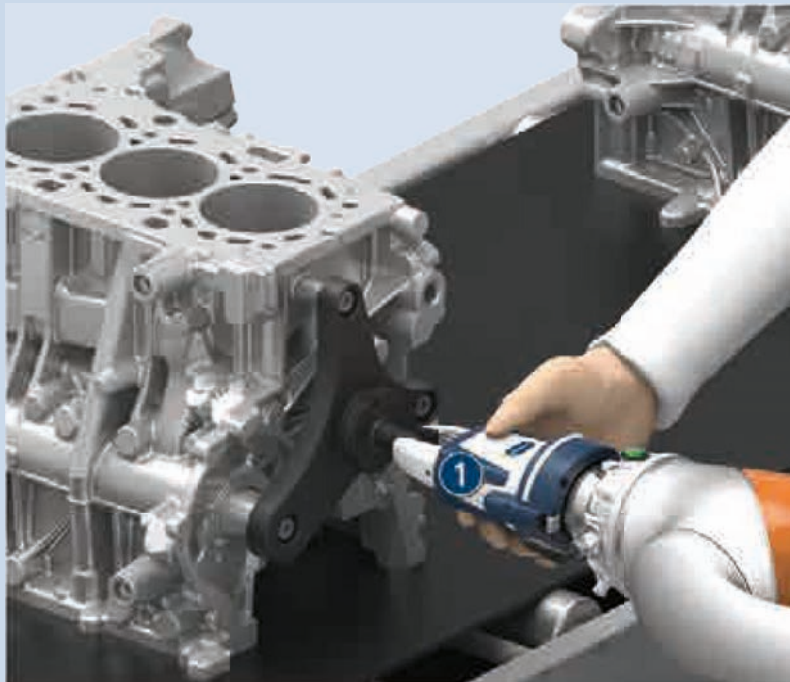
Gripping force: is the arithmetic total of the gripping force applied to each gripper jaw at distance P (see illustration). For more information, see the detailed functional description.

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 and FANUC: Actuation of the light band is possible for the version –UREK with external cabling for Universal Robots. For the version –URID, the digital signals for actuation are not available. For FANUC (version –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.

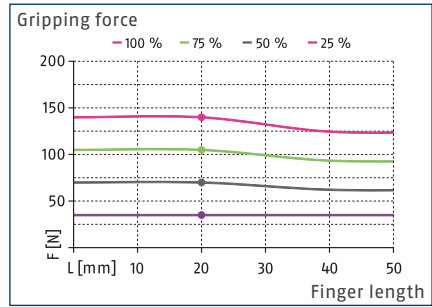
Co-act team: The Co-act team from SCHUNK is available to answer further questions at all times with experts on the topic of human/robot collaboration. You can reach the team at +49-7133-103-3444 or e-mail co-act-team@de.schunk.com.

Co-act EGP-C 40

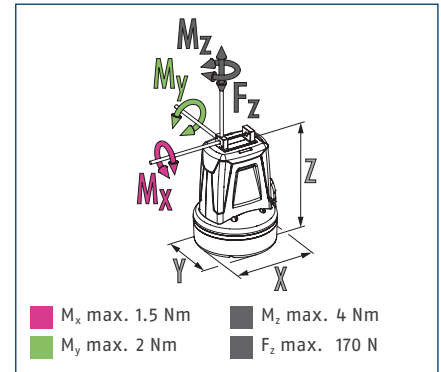
Collaborating gripper for small components



Gripping force



Dimensions and maximum loads



① The specified torques and forces are static values, apply for each base jaw, and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself.

Technical data—Co-act EGP-C for KUKA

Description		Co-act EGP-C 40-N-N-KETI	Co-act EGP-C 40-N-N-KTOE
ID		1326454	1321170
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]	93.8 x 90.2 x 135	93.8 x 90.2 x 123
Mechanical operating data			
Stroke per jaw	[mm]	6	6
Min./max. gripping force	[N]	35/140	35/140
Min./max. force per jaw	[N]	17.5/70	17.5/70
Recommended workpiece weight	[kg]	0.7	0.7
Max. permissible finger length	[mm]	50	50
Max. permissible mass per finger	[kg]	0.08	0.08
Repeat accuracy	[mm]	0.02	0.02
Closing/opening time	[s]	0.2/0.2	0.2/0.2
Weight	[kg]	0.6	0.62
Min./max. ambient temperature	[°C]	5/55	5/55
Protection class IP		30	30
Cable connector/cable end			M12
Cable length	[mm]		70
Electrical operating data			
Nominal voltage	[V DC]	24	24
Nominal current	[A]	0.2	0.2
Max. current	[A]	2	2
Controller electronics		integrated	integrated
Communication interface		digital I/O	digital I/O
Number of digital I/O		4/2	4/2

Technical data—Co-act EGP-C for FANUC

Description		Co-act EGP-C 40-N-N-FCR7
ID		1326456
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]	93.8 x 90.2 x 120.5
Mechanical operating data		
Stroke per jaw	[mm]	6
Min./max. gripping force	[N]	35/140
Min./max. force per jaw	[N]	17.5/70
Recommended workpiece weight	[kg]	0.7
Max. permissible finger length	[mm]	50
Max. permissible mass per finger	[kg]	0.08
Repeat accuracy	[mm]	0.02
Closing/opening time	[s]	0.2/0.2
Weight	[kg]	0.66
Min./max. ambient temperature	[°C]	5/55
Protection class IP		30
Cable connector/cable end		open wire strands
Cable length	[mm]	1000
Electrical operating data		
Nominal voltage	[V DC]	24
Nominal current	[A]	0.2
Max. current	[A]	2
Controller electronics		integrated
Communication interface		digital I/O
Number of digital I/O		4/2

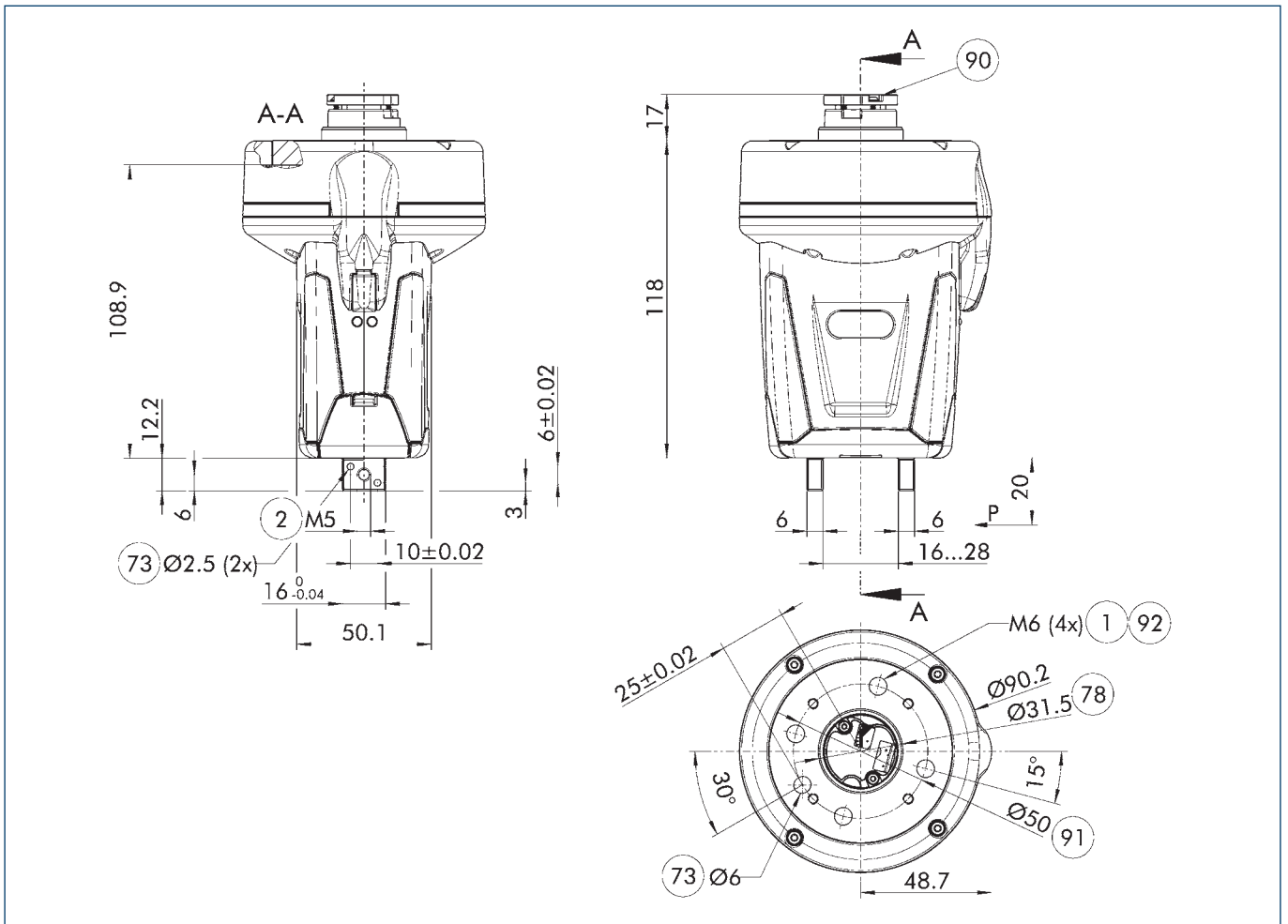
Co-act EGP-C 40

Collaborating gripper for small components

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

Description		Co-act EGP-C 40-N-N-URID	Co-act EGP-C 40-N-N-UREK
ID		1326455	1327883
General operating data			
Compatible robot		UR 3/5/10	UR 3/5/10
Robot flange		Standard flange	Standard flange
LED strip light			integrated
Displayable colors			green, yellow, red
Integrated sensors		yes, inductive in two directions	yes, inductive in two directions
Dimensions X x Y x Z	[mm]	93.8 x 90.2 x 123	93.8 x 90.2 x 123
Mechanical operating data			
Stroke per jaw	[mm]	6	6
Min./max. gripping force	[N]	35/140	35/140
Min./max. force per jaw	[N]	17.5/70	17.5/70
Recommended workpiece weight	[kg]	0.7	0.7
Max. permissible finger length	[mm]	50	50
Max. permissible mass per finger	[kg]	0.08	0.08
Repeat accuracy	[mm]	0.02	0.02
Closing/opening time	[s]	0.2/0.2	0.2/0.2
Weight	[kg]	0.59	0.86
Min./max. ambient temperature	[°C]	5/55	5/55
Protection class IP		30	30
Cable connector/cable end		M8	open wire strands
Cable length	[mm]	90	4000
Electrical operating data			
Nominal voltage	[V DC]	24	24
Nominal current	[A]	0.2	0.2
Max. current	[A]	0.6	2
Controller electronics		integrated	integrated
Communication interface		digital I/O	digital I/O
Number of digital I/O		2/2	4/2

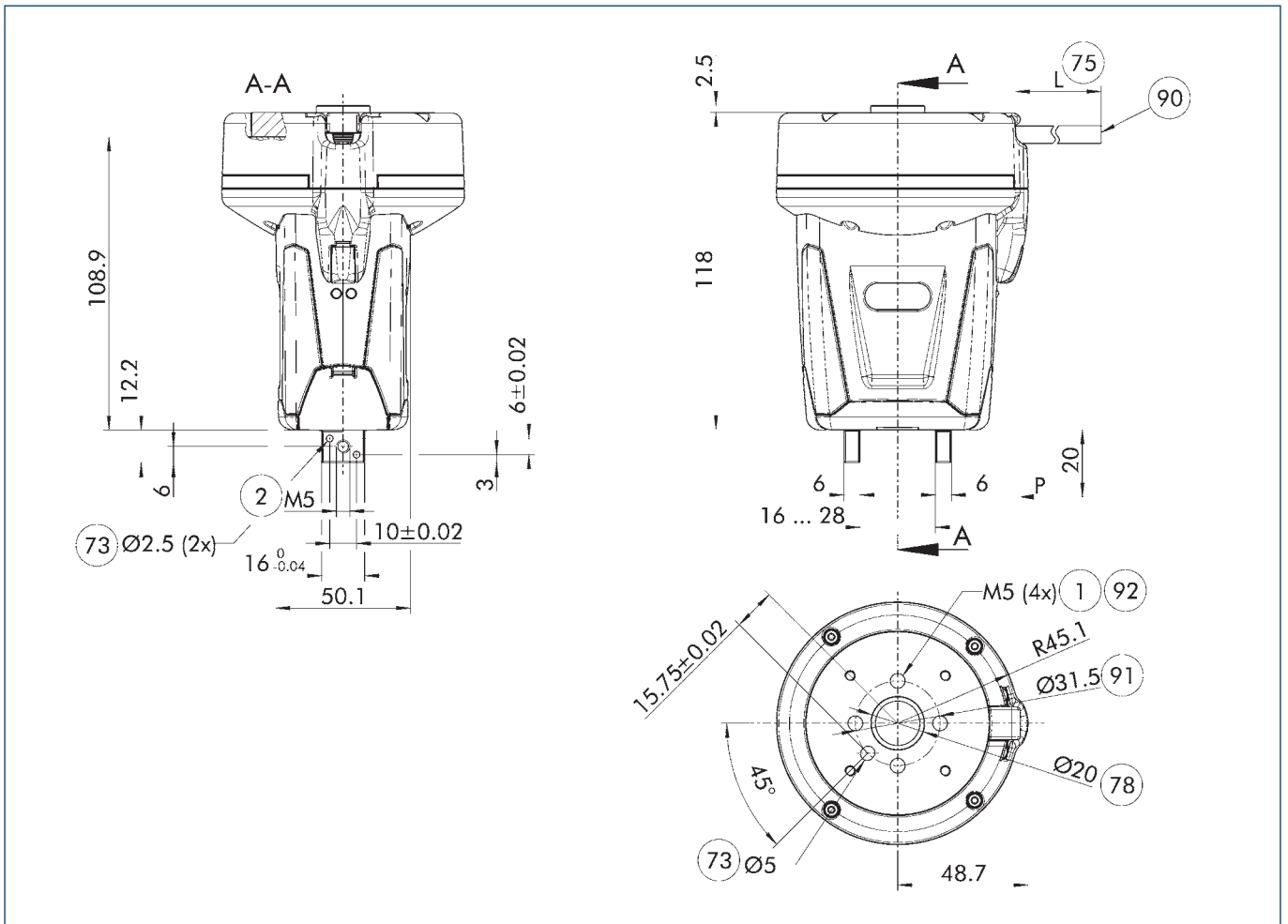
Main view Co-act EGP-C variant - KETI



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

- | | |
|---------------------------|--|
| ① Gripper connection | ⑨0 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 - FCR7



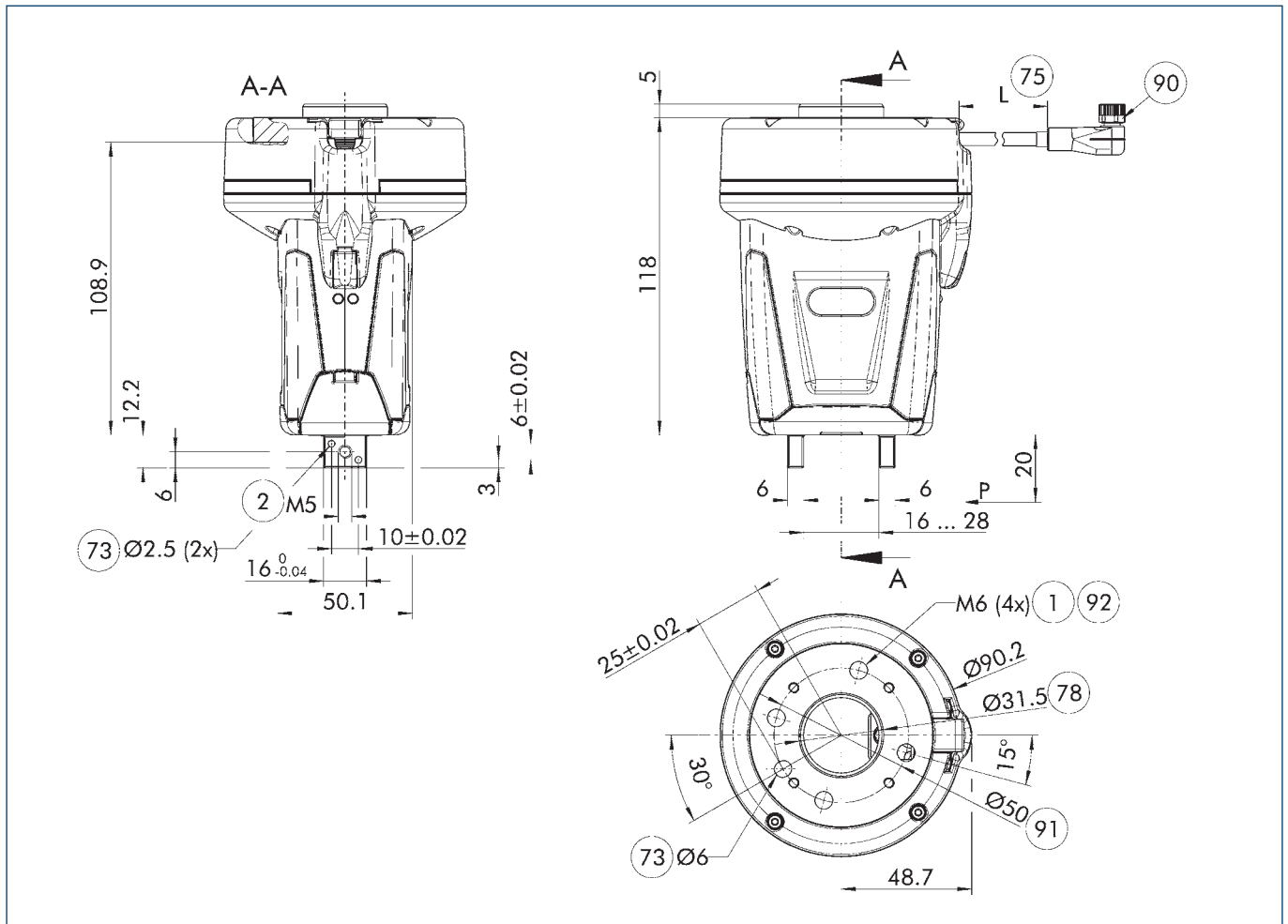
The drawing shows the basic version of the gripper with open jaws.

- | | |
|---------------------------|--|
| ① Gripper connection | ⑦⑧ Fit for centering |
| ② Finger connection | ⑨⑩ open wire strands |
| ③⑦ Fit for centering pins | ⑨⑩ DIN ISO-9409 bolt circle |
| ⑤ Cable length | ⑨⑩ Through holes for screw connections |

Co-act EGP-C 40

Collaborating gripper for small components

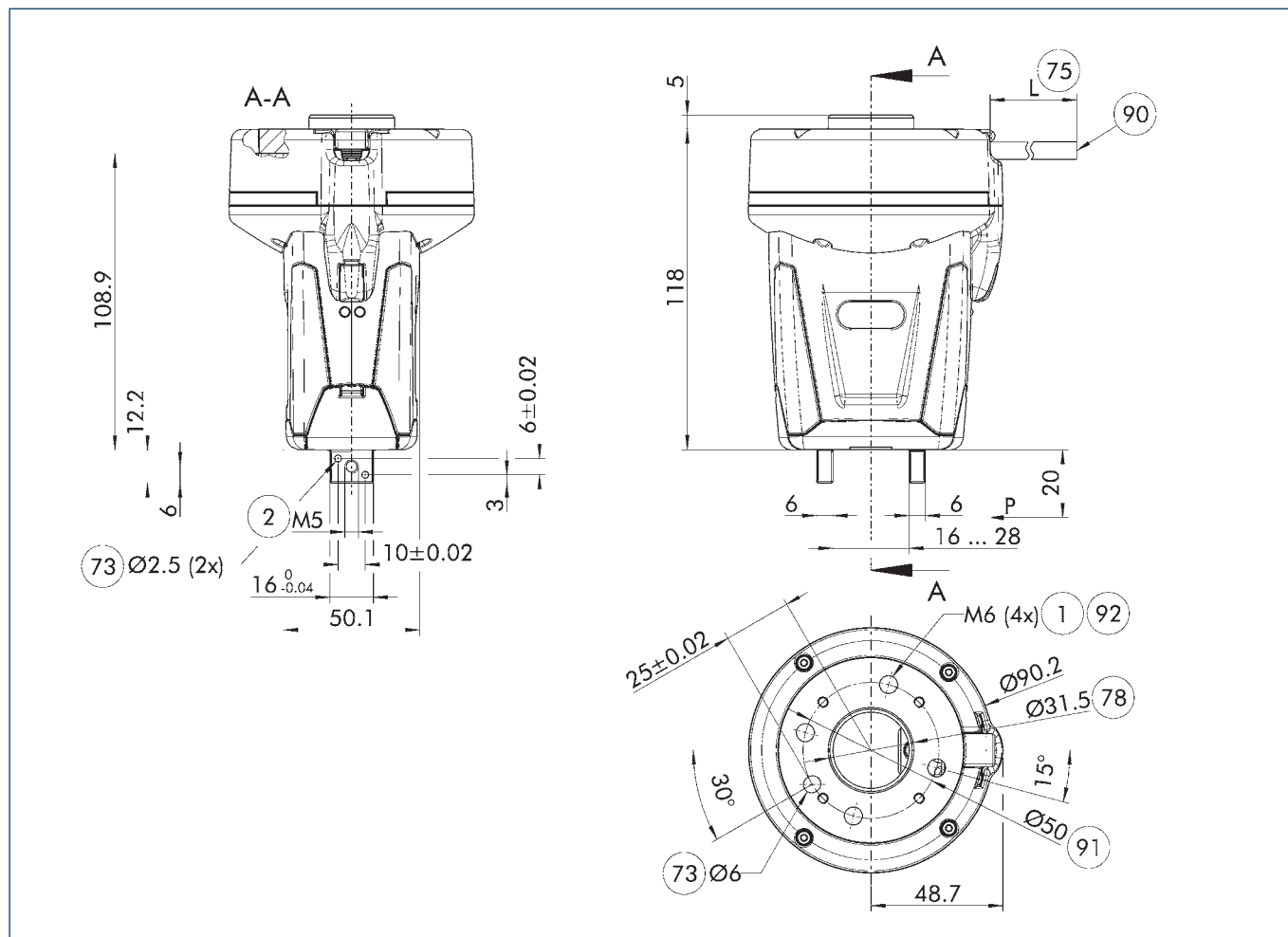
Main view Co-act EGP-C variant - URID



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

- | | |
|---------------------------|--|
| ① Gripper connection | ⑦⑧ Fit for centering |
| ② Finger connection | ⑨⑩ Socket M8, 8-pin |
| ⑦③ Fit for centering pins | ⑨① DIN ISO-9409 bolt circle |
| ⑦⑤ Cable length | ⑨② Through holes for screw connections |

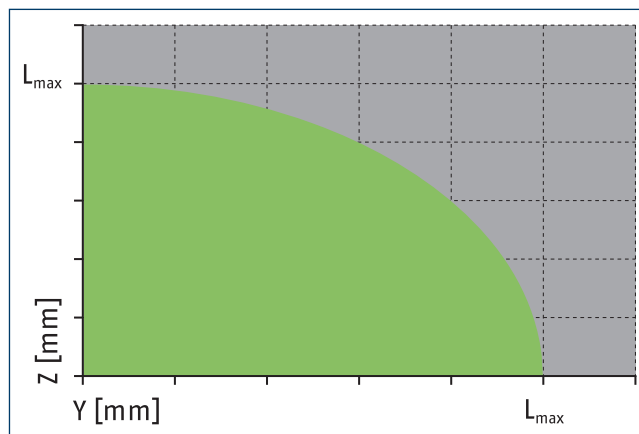
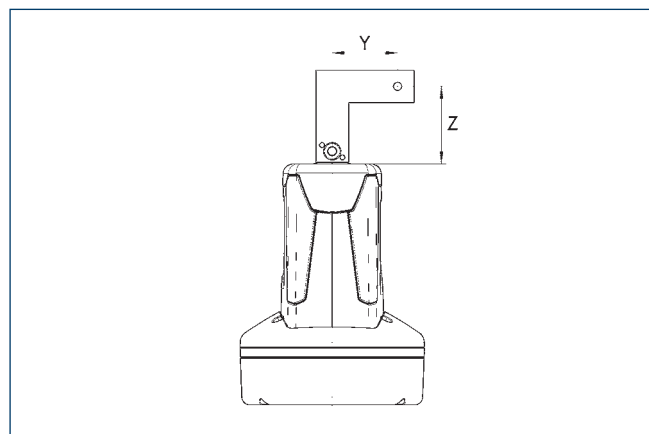
Main view Co-act EGP-C variant - UREK



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



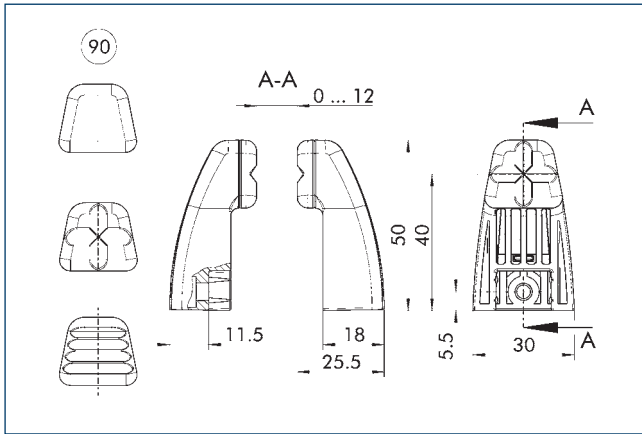
■ Permitted range ■ Inadmissible range

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

Co-act EGP-C 40

Collaborating gripper for small components

Top jaw AUB Co-act EGP



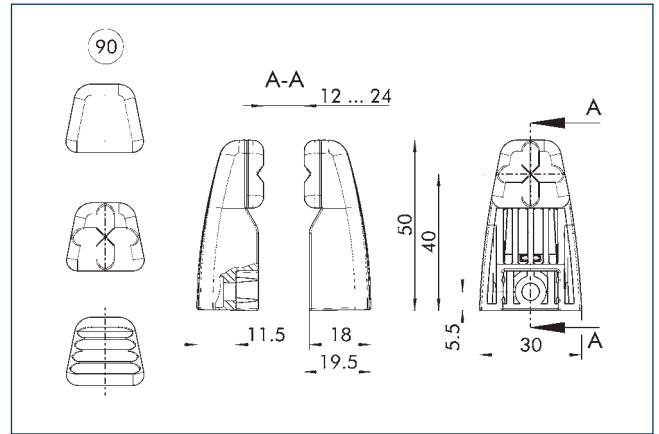
90 Finger inserts

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 40/12	1401285	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 40/24	1401286	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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