

Gripper for small components EGK

Process reliable. Flexible. Intelligent.

Hand in hand for tomorrow



Process reliable. Flexible. Intelligent.

Especially in the areas of laboratory and electronics, the pressure of automation has increased steadily in recent years due to the greater requirements for efficiency, flexibility and reliability. To meet to these challenges successfully, gripper components must also be optimally equipped. The EGK is the answer.



The constant shortage of trained specialists and zero tolerance for errors required in the life-science sector (e.g. in the examination of samples), make these developments even more inevitable. The factors needed for reliable and delicate handling of samples in laboratory automation

are also fundamental to the handling of sensitive components in electronic parts manufacturing. In both cases, gripper solutions have to ensure maximum safety and accuracy to achieve optimal results with automation. In these areas, the new, versatile gripper for small components EGK enables maximum workpiece diversity

with maximum process reliability and is suitable for use in working environments that are clean or slightly contaminated by dust or liquids. The gripper is fully lubricated with H1 grease and has cleanroom certification.

The EGK in laboratory automation

- Handling of trays and samples, e.g. cartridges, vials, petri dishes

The EGK in electronics manufacturing

- Handling of printed circuit boards and electronic components

Mechatronic grippers – versatile in use

Mechatronic gripper solutions offer **many advantages** for the requirements of modern process flows.

- **Flexibility:** Variety of parts, adjustment options (positioning, stroke, force, modes), future-proof due to new software functions that can be added at a later date
- **Process feedback:** For greater process stability and reliability due to integrated query and analysis options
- **Connectivity:** Added value through standardized interfaces (flexible and simple networking with all relevant robot and controller manufacturers)
- **Independent of compressed air:** For improved availability, cleanliness and sustainability even in mobile applications



Your advantage:

- + **Versatile and productive** due to the long and freely programmable jaw stroke with stepless gripping force adjustment for flexible workpiece handling
- + **Always referenced** in the event of both emergency stop and power failure due to integrated absolute encoder
- + **Reliable and sensitive** particularly suitable for the requirements of laboratory automation and electronics production due to the sealed design and smooth-running profiled rail guide
- + **100% constant gripping force with no start-up distance** over the entire finger length due to integrated spur gear
- + **Maximum process reliability** by avoiding workpiece loss due to integrated gripping force maintenance with loss detection
- + **Minimum integration workload** due to a wide range of communication interfaces, as well as PLC function modules and robot plug-ins compatible with the leading manufacturers on the market

Our versatile gripper for small components EGK Reliable and sensitive

The mechatronic gripper for small components EGK provides features in many areas that make the typical representative for our automation level L3 smart products & services. The component handles complex motion sequences based on the input parameters and programming.

L3 Smart products & services

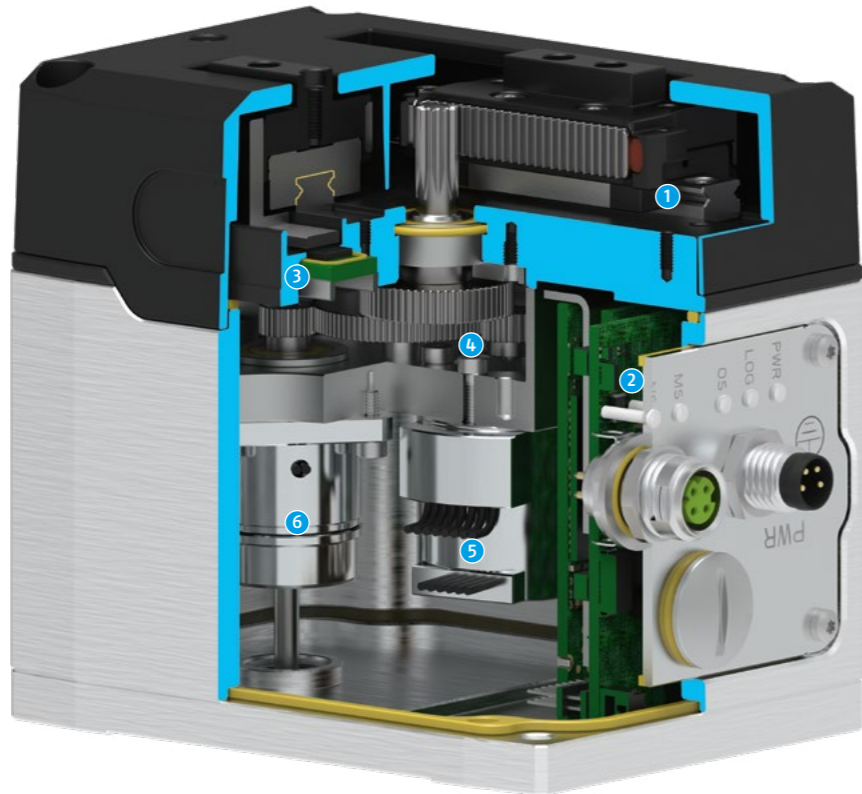
- + **Embedded systems**
These are the basis for the implementation of monitoring, control or regulation functions.
For EGK: BLDC flat motor, absolute encoder, integrated control and power electronics, embedded software

- + **Services**
This refers to the functions of a component, but also to software services for the component.
For EGK: Gripping workpieces with BasicGrip and SoftGrip gripping modes, pre-positioning of the gripper fingers at high speed, infinitely variable gripping force adjustment, workpiece loss detection.
SW services for EGK: Plug-ins for leading robot manufacturers, function modules for leading PLC manufacturers, commissioning and parameterization software MTSN



- + **Connectivity**
By “connectivity” we mean standardized interfaces that enable fast and easy integration at the customer site.
For EGK: PROFINET, EtherNet/IP, EtherCAT, IO-Link and Modbus RTU



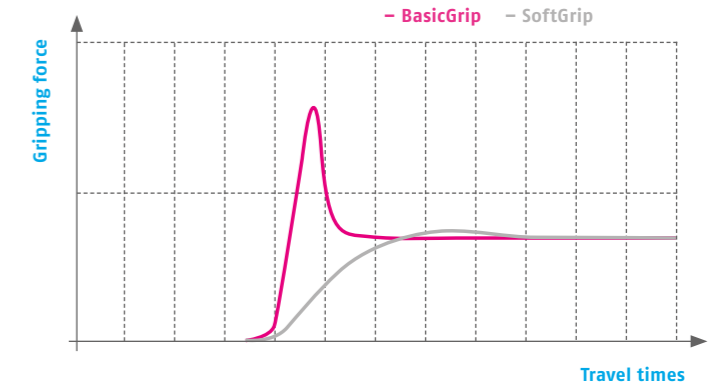


- 1 Smooth-running profiled rail guide with stainless steel face seal and food-compliant lubrication and cover made from resistant polycarbonate
- 2 Fully integrated and sealed control and power electronics with status LEDs and M8 plug connectors for connecting the voltage supply and communication.
- 3 High-resolution, output-side absolute encoder for precise positioning of the gripper jaws with permanent absolute position feedback
- 4 Sealed drive train with spur gear and rack and pinion principle for a constantly acting gripping force over the entire length of the finger with no minimum approach distance
- 5 Brushless flat motor for limited space and high torques thanks to external rotor
- 6 Electromagnetic brake with additional mechanism for maintaining gripping force and position during standstill or power failure

Gripping modes

You can use BasicGrip and SoftGrip gripping modes.

- **BasicGrip:** The gripping speed is automatically optimized for gripping force adjustment
- **SoftGrip:** Grips fragile workpieces particularly gently. Impulse forces are reduced to a minimum when the workpiece is impacted
- Permanent re-gripping and continuous operation of the motor in both gripping modes

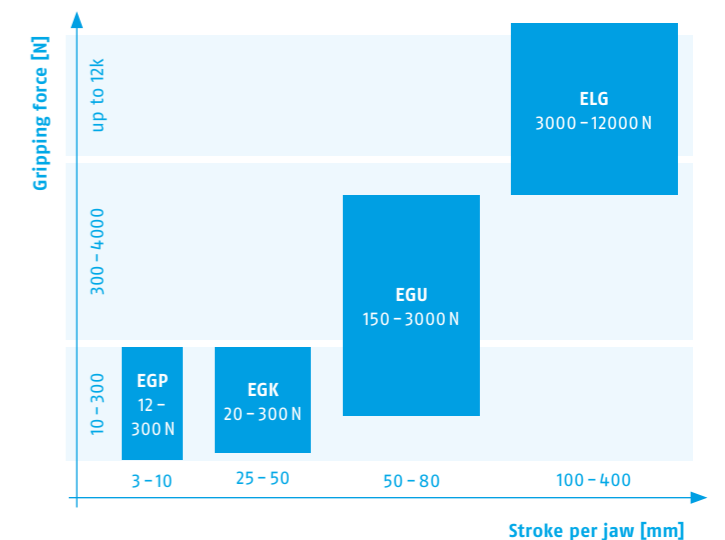


Technical data Gripper for small components EGK

Size	Stroke per jaw [mm]	Min./max. gripping force [N]	Weight [kg]	Max. permissible finger length [mm]
25	26.5	20/50	0.62	70
40	41.5	55/150	1.02	100
50	51.5	150/300	1.63	130

The right electric gripper for every task

Our range of electric grippers currently comprises four product series that are optimally adapted to use in various application areas in terms of gripping force and stroke. This allows you to quickly find the right gripping solution for your application.

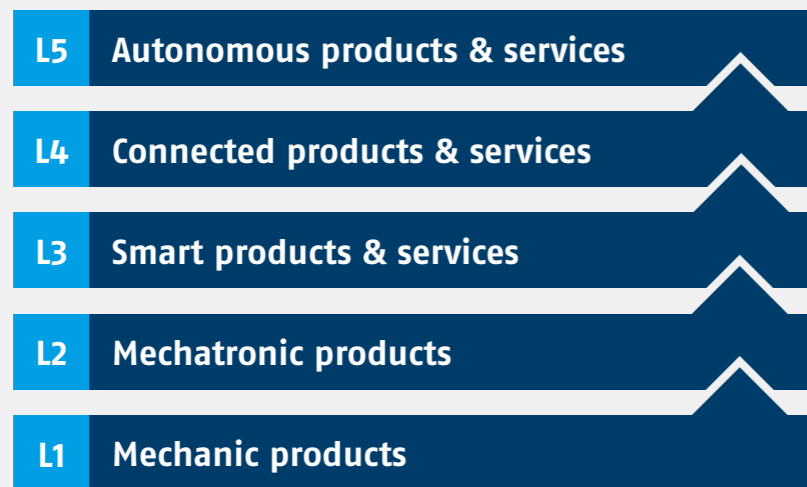


Five levels of automation

Industry 4.0, 5.0, IoT, IIoT, AI ... anyone working with industrial automation inevitably encounters a multitude of terms – and not everyone knows what the terms really mean.

We have divided our components into five automation levels. This makes it easy to assign them to the respective applications and requirements.

In addition to increasingly functional advantages, the successive levels offer a whole range of other fundamental benefits in the automation environment.



L1 The focus is on the function of the mechanical component and that the basic requirements of the application are met. Control authority lies solely with the higher-level controller. Process transparency can only be achieved through additional sensor systems.

L2 An electric drive with electronics and a sensor system is added to the component. The higher-level control system controls simple movements and records the feedback from the sensor system. A small amount of process information can be recorded.

L3 The focus is on integrated intelligence, the functions and benefits of the component. The connection to the control level is made via integrated standardized communication interfaces (e.g. PROFINET, EtherNet/IP). The component handles complex motion sequences based on the input parameters and programming. Enhanced process transparency, diagnostic features and a user-friendly programming interface.

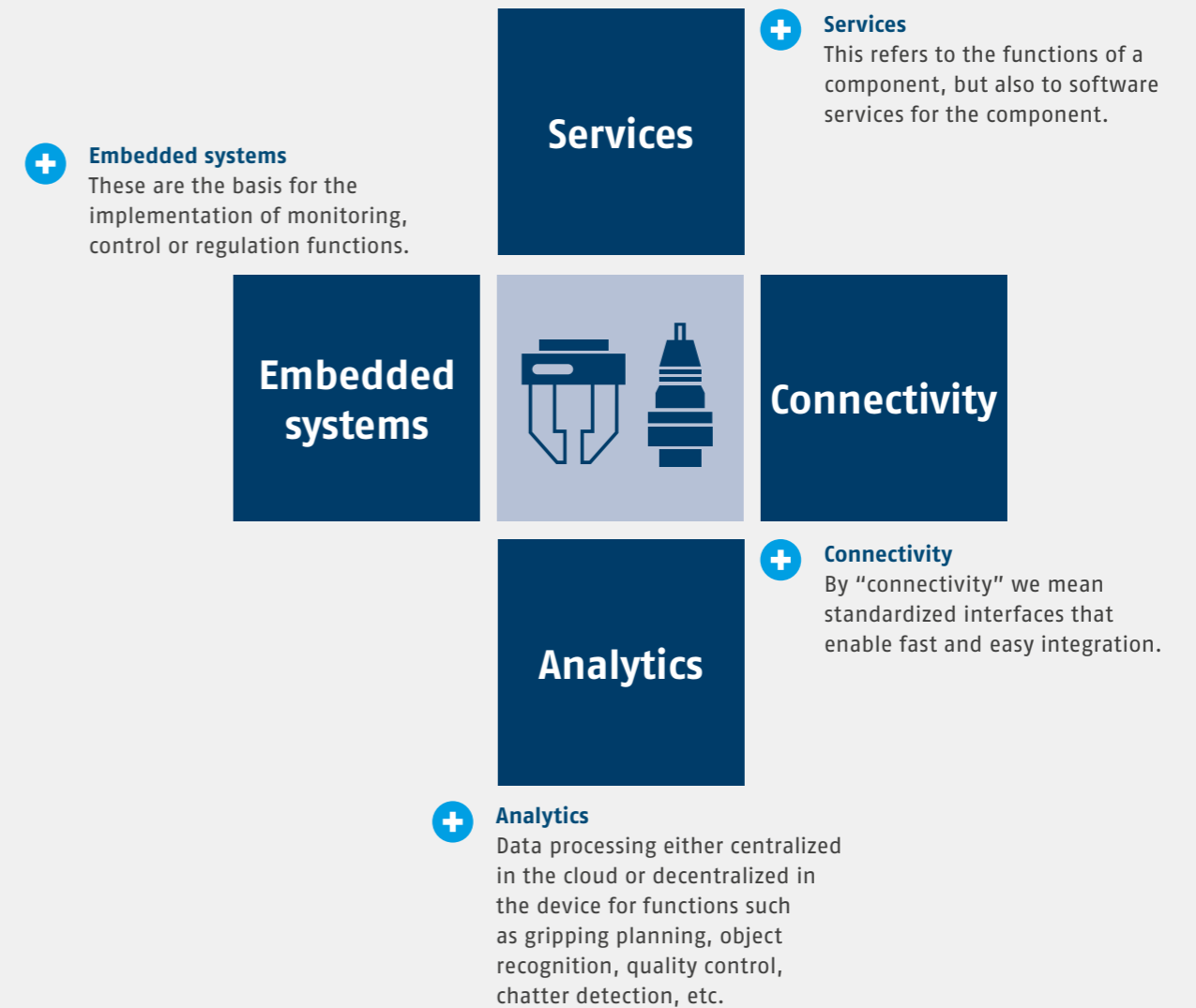
L4 Networking of several “smart products” to implement a specific application. Programming of the individual components is no longer required, just the parameterization of the overall application. The networked components provide comprehensive process data up to the control level and enable direct process optimization.

L5 The components control the application independently under all general conditions. The application is continuously optimized by the self-learning components. No further programming is required.

Our products and services Much more than the sum of its parts

The functional scope of our components comprises features from different areas.

Depending on their characteristics, these functions determine the assignment to the five automation levels.





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