Universal gripper EGU

Robust. Flexible. Intelligent.

Hand in hand for tomorrow

Robust. Flexible. Intelligent.

Increasing variance in production technology is leading to greater flexibility in manufacturing processes with a requirement for batch size 1 in extreme cases. Requirements for flexibility and networking of automation components are increasing everywhere, as are the demands on productivity and quality.

Shifts are becoming increasingly automated in order to increase machine output, reduce the workload on employees, and compensate for the shortage of skilled workers. The gripping components used in machine tools, grinding machines or modern multi-axis machining centers must be adapted to harsh ambient conditions with high temperatures, chips, dust and lubricants to enable these processes to run smoothly.
This is where the new, electrically operated universal gripper EGU can demonstrate its strengths. It can be used very flexibly for different applications in harsh ambient conditions due to its design and sealing concept. With its long stroke and integrated gripping force maintenance, it is able to reliably load and unload rough and finished parts of different sizes.

The EGU in the automotive sector
- Assembly and joining tasks with a high level of part diversity and externally generated forces and moments.
- General production automation (pick & place applications)

The EGU in logistics
- Flexible picking of a wide range of components
- Palletizing tasks

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
- **Connectivity:** Added value through standardized interfaces (flexible and simple networking with all relevant robot and controller manufacturers)
- **Process feedback:** For greater process stability and reliability due to integrated query and analysis options
- **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
- **Robust and reliable** with sealed design and proven guidance particularly suitable for the harsh ambient conditions of machine loading
- **Maximum process reliability** by avoiding workpiece loss due to integrated gripping force maintenance with loss detection
- **Always referenced** in the event of both emergency stop and power failure due to integrated absolute encoder
- **100% constant gripping force with no start-up distance** over the entire finger length due to integrated spur gear
- **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 universal gripper EGU

Robust and versatile

The mechatronic universal gripper EGU 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 the EGU: 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 EGU: Gripping workpieces with BasicGrip and StrongGrip gripping modes, pre-positioning of gripper fingers at high speed, stepless gripping force adjustment, workpiece loss detection

SW services for EGU: 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 EGU: PROFINET, EtherNet/IP, EtherCAT, IO-Link and Modbus RTU


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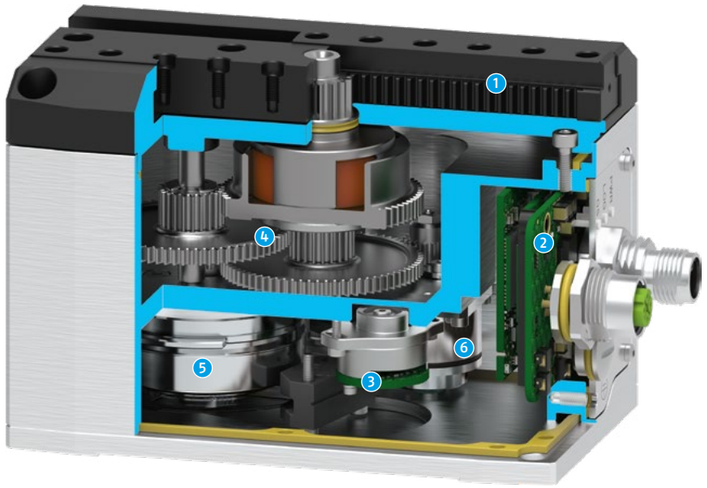


1. **Sturdy and resistant T-slot guidance** for long finger lengths, external forces and moments. Optionally available as dust-tight version
2. **Fully integrated and sealed control and power electronics** with status LEDs and M12 plug connectors for connecting the voltage supply and communication.
3. **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 due to external rotor
6. **Electromagnetic brake** with additional mechanism for maintaining gripping force and position during standstill or power failure.

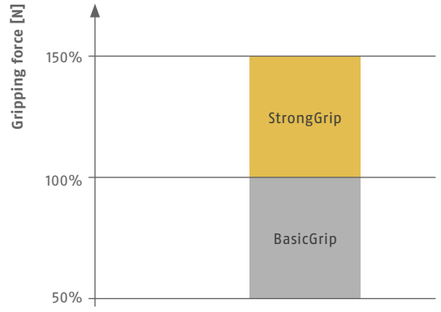
Increased protection class with dust-tight version

- protected against dust and liquids penetrating into the guidance area of the base jaw and rack-and-pinion principle
- suitable for use in particularly harsh ambient conditions, e.g. grinding applications
- protection class IP64: fully dust-tight and splash-proof
- basic protection of electronics IP67: fully dust-tight, protected in the event of temporary submersion.

Gripping modes

You can use BasicGrip and SoftGrip gripping modes.

- BasicGrip: The gripping speed is automatically optimized for gripping force adjustment, permanent re-gripping is possible
- StrongGrip: Maximum gripping force is generated and then stored by the gripping force maintenance, permanent re-gripping is possible within an adjustable time window

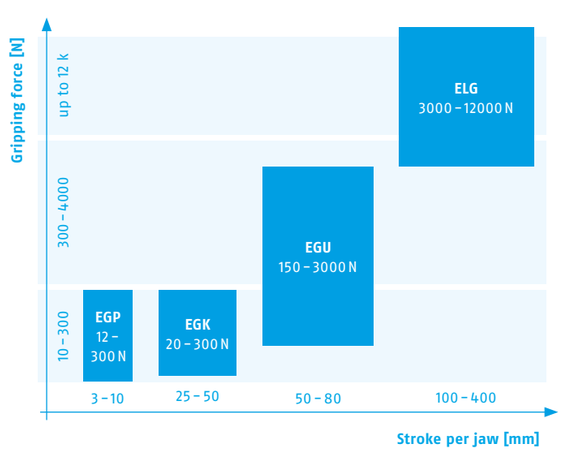


Technical data universal gripper EGU

Size	Stroke per jaw [mm]	Min./max. gripping force [N]	Weight [kg]	Max. permissible finger length [mm]
50	51	150/450	1.49	80
60	60	325/975	2.90	125
70	70	650/1950	4.52	160
80	80	1000/3000	7.72	200

The right electric gripper for any task

Our range of electric grippers currently comprises four product series that are optimally adapted for 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.

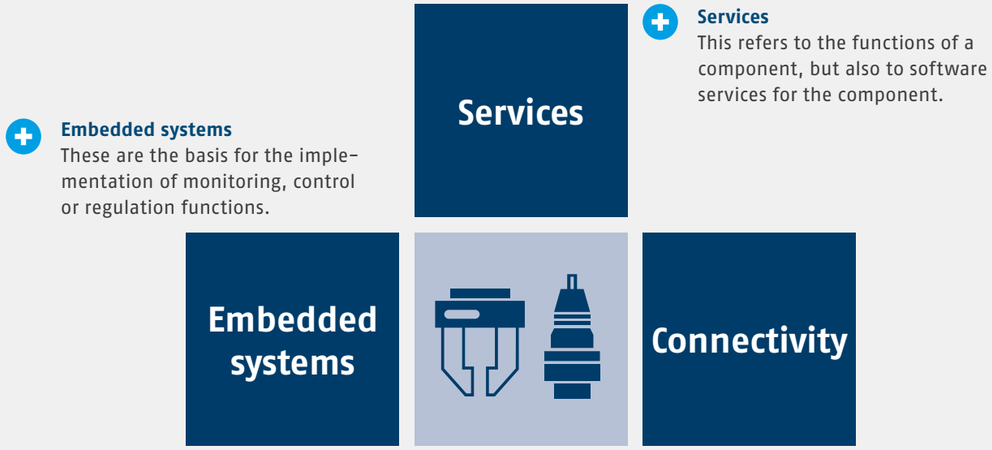
L5 The components control the application independently under all general conditions. The application is continuously optimized by the self-learning components. No further programming is required.

Our components

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 automation levels.



Services
This refers to the functions of a component, but also to software services for the component.

Embedded systems
These are the basis for the implementation of monitoring, control or regulation functions.

Connectivity
By "connectivity" we mean standardized interfaces that enable fast and easy integration.

Analytics
Data processing either centralized in the cloud or decentralized in the device for functions such as image recognition, chatter detection, breakage detection, etc.

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