GIMATIC™

A business of BARNES

ELECTRIC

ELECTRIC GRIPPING SOLUTION

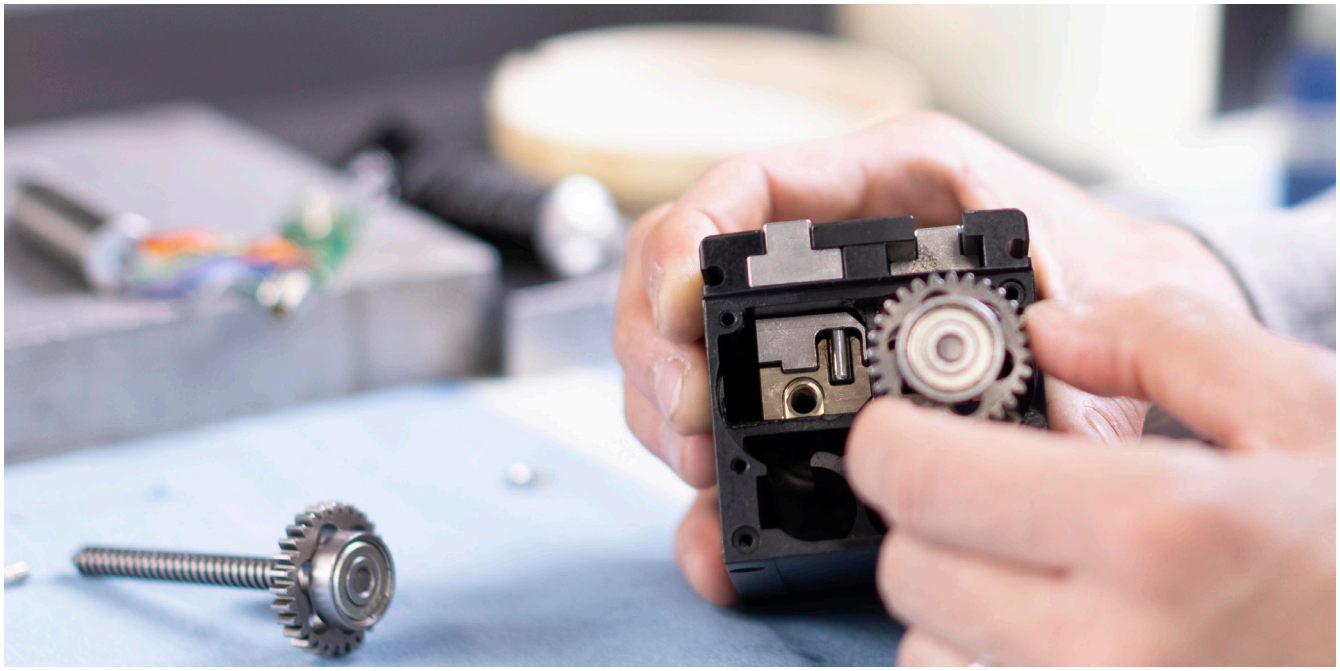
Help to improve the performance, reliability, and ease of use of automation systems.

ELECTRIC SOLUTIONS

Electric solutions for all your applications

For almost 40 years, Gimatic has been bringing innovation in this field to all its customers, to be able to offer them the best solutions.
Since 1987 Gimatic has begun to invest in the electrical sector, in order to be competitive on the market and offer a wider range of products.

Gimatic electric grippers are available in a wide variety of sizes and configurations. This allows customers to choose the right gripper for their specific application.



Gimatic electric grippers are known for their high performance. They are able to grip and release objects quickly and easily, and they can do so with a high level of precision. This makes them ideal for a wide variety of applications, including assembly, packaging, and material handling.

Main features:

1 Gimatic electrical products can be customized, for example with customized jaw, according to customer needs.

2 Gimatic Plug&Play electrical products allow users to keep the piece even in case of a blackout

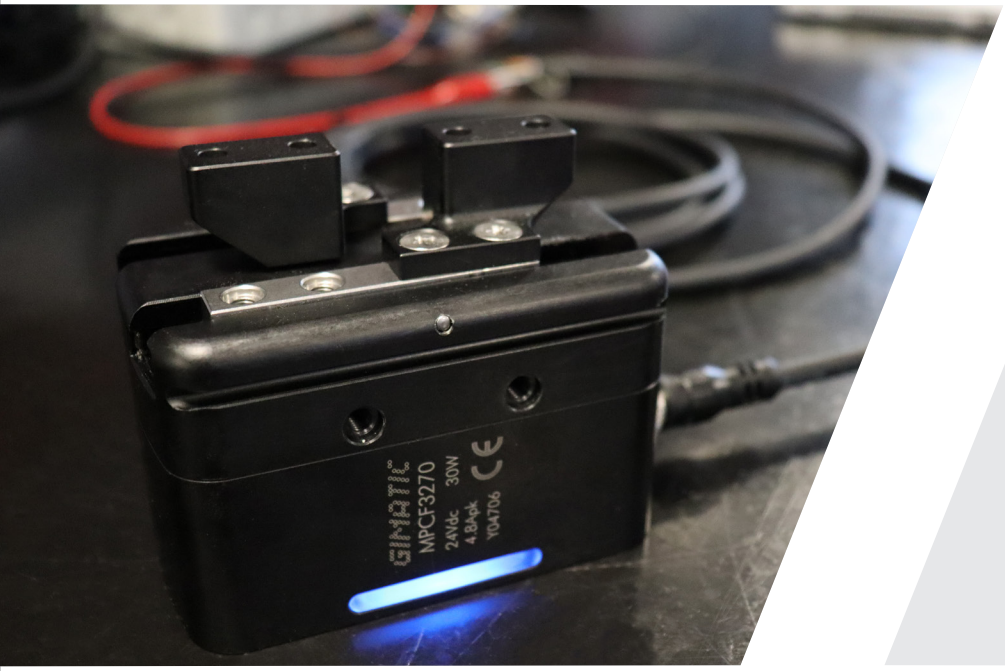
3 Gimatic invests heavily in research and development. This allows Gimatic to stay ahead of the competition and develop new and innovative automation technologies.

Why Gimatic Electric?

Gimatic has competence on pneumatic, electric, mechanic and vacuum. You will be able to have only one supplier for all your solutions worldwide, because Gimatic have a Global presence.

Gimatic electric grippers are easy to use. They can be programmed using a simple graphical user interface, and they can be integrated with a variety of robots and automation systems. This makes them a good choice for businesses of all sizes.

Every product is tested and configured in the Gimatic headquarters, to guarantee the highest quality and the longest life. In fact, each product is guaranteed for 10 million cycles.



- Product easy to use thanks to the Plug & Play feature.
- The smooth body design allows to not collect dust on the body, ideal for medical or food applications.
- Grippers are designed to be safe to use: stroke limiting and force limiting, to help prevent accidents.

Main Industries:

AUTOMOTIVE

FOOD&BEVERAGE

PHARMA&MEDICAL

COBOTS

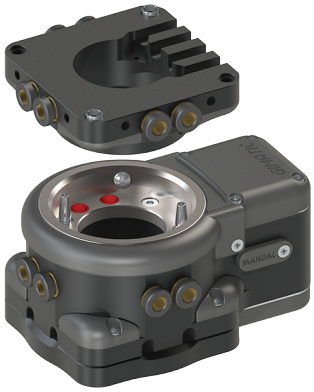
AGRICULTURE

AEROSPACE

Electric Quick Changer

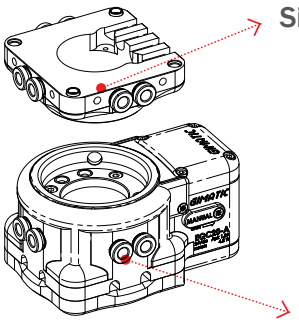
Quick changers are **used for minimizing tool changing times**.
They feature built-in air channels and modular electrical connectors. Gimatic's EQC electric quick changers are automatic tool changers driven by a built-in electric motor. They are **plug-and-play devices** and therefore require no driver.

EQC



The EQC electric quick changer family is **available for applications with automatic change of gripping element.**

The system consists of **an active part (side A) and a passive mechanical tool plate (side B)**. The active part is usually connected to a robot's wrist while one or more flange are connected to the interchangeable gripping elements.



Optional

ECQC - CONNECTOR ACCESSORY FOR ELECTRIC QUICK CHANGER

- RMAQC05/RMBQC05 (for EQC05)
- RMAQC/RMBQC (for EQC20)
- RRAQC/RRBQC (RFID Identification modules and electric connection module)

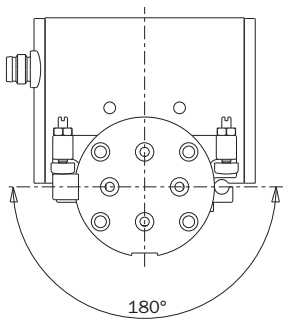
- Fully automatic version.
- Designed to collaborative robot application.
- Optional **flange ISO 9409** to interface directly with robot.
- Power cable with **8-pin M8x1 connector**, length 200 mm.
- **24 Vdc low** voltage supply.
- Up to 6 user pneumatic connections.
- **Optional electric connectors** to be positioned in the central through hole

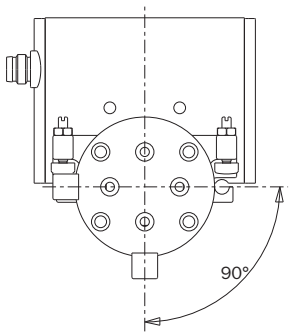
Electric Rotary Units

Rotary units are **used to achieve a rotary motion** for a variety of purposes such as tilting, indexing or rotating. The Gimatic MRE electric rotary unit is a **plug-and-play device** and, as such, does not require a driver.

MRE

- No electricity consumption when actuator is in position.
- Guarantee of position kept in the event of power blackout.
- Long life Brushless motor (Brushless DC).
- Motor drive integrated in the actuator.
- 24 Vdc Low Voltage Power Supply.
- M8x1, 3 poles standard connection.
- Controllable by PLC as a pneumatic valve.
- Ball bearings.
- Fiber-carbon gear reduction.
- 10 million cycle maintenance-free.
- Weight-dimensions-force best trade off.
- Compatible with MPPM electric grippers.
- Optional inductive sensors.





Rotation Angle

> MRE electrical rotary actuators are able to swivel to 90° or 180°

Electric Grippers

Parallel Grippers:

Parallel grippers can be **used in many applications as custom fingers can be created to match different part shapes**.

MPLM

Plug & Play

MPPM

Plug & Play

MPXM

Plug & Play

Plug And Play

Plug & Play

> These grippers are **Plug & Play** and do not require any programming thanks to the control electronics integrated in the body.

> The smart control system creates a power interruption when the gripper has gripped the workpiece, thus saving energy.

- **No electricity consumption** when gripper is engaged.
- Gripper **retention guaranteed in** event of **blackout**.
- It **adapts to any size** of piece between jaws.
- Brushless motor with long electric life (**Brushless DC**).
- Motor drive built-in into the gripper.
- **24 Vdc low voltage** supply.
- **M8x1, 3-pin** standard connection.
- Controllable by PLC as a pneumatic valve.
- Self-centering mechanism.
- Carbon fibre reduction system.
- **Maintenance free for 10 million cycles**.
- T-jaws for high loads.
- Best weight/size/force ratio.
- Compatible with rotary actuators.
- Optional magnetic sensors.

Angular Grippers:

Angular grippers are **used for gripping an off-centred object or for creating a wider opening with their angular stroke**.
Gimatic is the only manufacturer on the market to offer angular electric grippers.

MPBM

Plug & Play

- **No electricity consumption** when gripper is engaged.
- Gripper **retention guaranteed in** event of **blackout**.
- It **adapts to any size** of piece between jaws.
- Brushless motor with long electric life (**Brushless DC**).
- Motor drive built-in into the gripper.
- **24 Vdc low voltage** supply.
- **M8x1, 3-pin** standard connection.
- Controllable by PLC as a pneumatic valve.
- Self-centering mechanism.
- Carbon fibre reduction system.
- **Maintenance free for 10 million cycles.**
- Jaws contained within the dimensions of the gripper.
- Best weight/size/force ratio.
- Compatible with rotary actuators.
- Optional magnetic sensors.

Electric Grippers

Servo Grippers:

Using a drive, these new grippers enable to implement speed and force controls as well as any other customisable control algorithm.

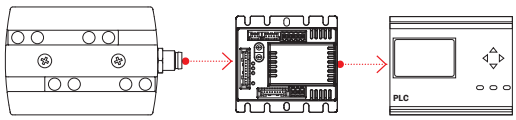
MPLF

Servo Gripper

- Embedded torque brushless motors with 24Vdc nominal voltage.
- Can be controlled by a generic drive compatible with Feedback signals.
- The arbitrary choice of the drive allows interfacing to any Fieldbus network.
- Direct control of the motor and embedded ABZ encoder driver.

Functioning

The gripper is equipped with an M12-12 pole male connector for the power supply and the connection of the feedback signals (HALL sensors and incremental encoder) with the external electronics.

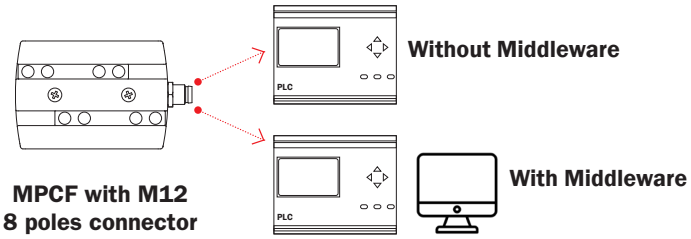


MPLF with M12 12 poles connector | **Servo Drive 24 Vdc** | **Fieldbus Connection**

MPCF

Servo Gripper

- Integrated brushless motors with 24Vdc rated voltage.
- Fieldbus standard (CAN/RS485)
- Absolute encoder.
- Smart interface for Windows PC.



Without Middleware

With Middleware

MPCF with M12 8 poles connector

Functioning

Gimatic has developed a high-level software interface. The interface consists in a Windows application and a firmware (Middleware) based on predefined macros that can be easily recalled from an external Master. The gripper can be used in two ways:

- With Gimatic Middleware: to test, configure and use the gripper in a simplified way. Possibility of using the Smart interface for Windows PC to configure and store movement recipes.
- Without Gimatic Middleware: The gripper is used in realtime as a generic device adhering to the CANopen DS-402 standard for high performance applications.

GMP Kit Gripping Solutions

Gimatic electric grippers can operate in environments characterised by a high standard of cleanliness and hygiene by integrating the KIT-GMP-G. An adapter enables fastening the electric gripper to a robot interface (not included) and protecting its operation by means of a sterilisable silicone cover.

GMP

- Cover **made in Wacker's Silpuran® silicone**, compliant with FDA 21 CFR 177.2600* and FDA/EHEDG approved.
- Is compatible with the **MPPM/MPXM/MPLM** grippers. These grippers differ in stroke length and gripping force to meet the needs of different customers.
- The GMP kit can also be used with the **MPLF/MPCF** servo grippers.
- Thanks to the transparent cover, **the LEDs of the internal sensors are easy to read**.
- **Hygienic design surfaces** preventing the build-up of bacteria.
- Easy fastening of gripping fingers with **anti-rotation system.**

> Compatible with hydrogen peroxide (VHP-H2O2) and UV cleaning procedures.

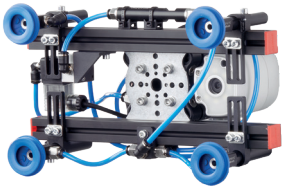
> Gimatic's GMP kits are certified by the IPA Fraunhofer Institute in Stuttgart.

Kit Cobot

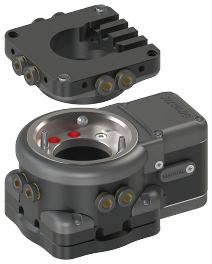
Gimatic create specific solutions for collaborative robots, which consist in **Plug & Play Kits**, complete **with plug-in software**. The range includes **collaborative grippers and tool changers**.

All Gimatic Cobot Kits have common peculiarities:

- Each Kit can adapt to any robot
- Electrical cables along the Cobot arm are eliminated
- Plug And Play installation is simple and immediate

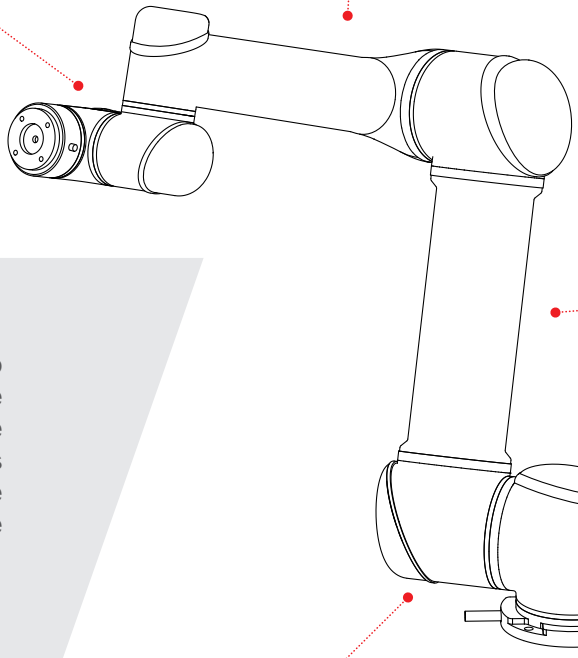


KIT-V



KIT-EQC20

KIT-J

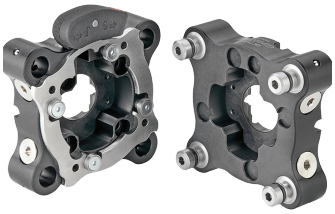


KIT-QC

Cobot Gimatic kits allow you to simplify the use of collaborative robots and to have in a single product, all the elements necessary to be able to use the gripper or tool changer on the Cobot.

- > **Customized solutions** for satisfying customer needs.
- > **In-house development** of mechatronic components.
- > All Cobot kits are developed to **adapt to the different collaborative robots on the market**.

KIT-G



KIT-QC75

CapBox - Capacitor Box

Capacitor Box allows a correct functionality of Gimatic's electric grippers in all the cases where power supply is limited in peak current (for example some collaborative robots).

CAPBOX

- **2 models available** (one for grippers size 16 and 25, one for grippers size 32).
- Compatible with **all Gimatic electric actuators.**
- **Compact** dimensions.
- Embedded connection of power supply, command signal and additional I/O.
- Plug & Play connection with standard M8 8-pin connectors and angular M8 3-pin/4-pin connectors (depending on the version).

Electrical Connections

> The Capacitor Box circuit has an input side and an output side. The input side allows for connection of power supply, command signal and auxiliary I/O by a M8-8pin female connector. The output side allows for direct connection of 3 or 4 pins Plug & Play grippers' models. Default configuration is with both input and output command signals in NPN version.

> The user can customize configuration by simply modifying electrical connections according to following table.

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