



**Maximize your part handling  
system flexibility and performance.**

## **Modular System Components**

Simplify part handling system design, engineering and operation with modular components.



# Modular system

Emerson's modular system enables you to easily combine differently size handling system components, such as pneumatic modules, electric axes and grippers. This allows you to build handling systems that meet the most exacting application requirements without compromising on performance. Every individual module is designed to provide outstanding precision and reliability. For example, most of our pneumatic modules are equipped with shock absorbers and stop screws as standard, ensuring a very long service life.

The wide variety of gripper designs and solid construction of the gripper mechanism ensure outstanding flexibility, precision and durability. If connecting plates are needed, suitable screws and centring rings are provided as part of the scope of delivery.

## Key Advantages

- Wide range of linear, rotary and gripper modules to meet specific application requirements
- All components offer high levels of precision
- Repeatable accuracy of up to 0.01 mm
- Pick and place movements <1 sec possible
- Centring system ensures module compatibility
- Reproducible connection technology
- High component and system availability, and optimized setup performed by our project engineers ensure a long system service life
- Guaranteed module service life of 12 months reduces downtime and lifecycle costs
- Spare parts packages and module repair service available for all components reduces lifecycle costs
- Online handling system configuration tool
- Access to CAD data for all modules on website and downloadable operating manuals with detailed descriptions
- App provides access to all documentation via mobile devices

## Gripping modules

### GM

Drive combinable with different grippers



### SG

Programmable stroke range



### GE

Very high number of cycles per minute



### UG

Parts detection sensor



### PG

High-precision gripper jaws



## Turning modules

### RE

High torque



### DG

Shortest rotating gripper within its performance class



### RA

Endless rotation without moving cables



### CR

Compact style



### RM

Optional intermediate positions



### GM/RM

Modular combinations



### GMQ/RE

Endless turnable Pneumatic grippers



## Linear modules

### OZ

Highly dynamic cantilever axis



### PS

For heavy weights



### CS

Compact style



### HM

Torsional rigidity  
Short style



### LM

Extremely robust



### ES

Freely programmable



### SA

Flexible engine mounting



### PDL

High torsional rigidity by double brackets



### LE

High-dynamic and precise





# Linear modules

Pneumatic and electric linear modules are available in a wide range of sizes.



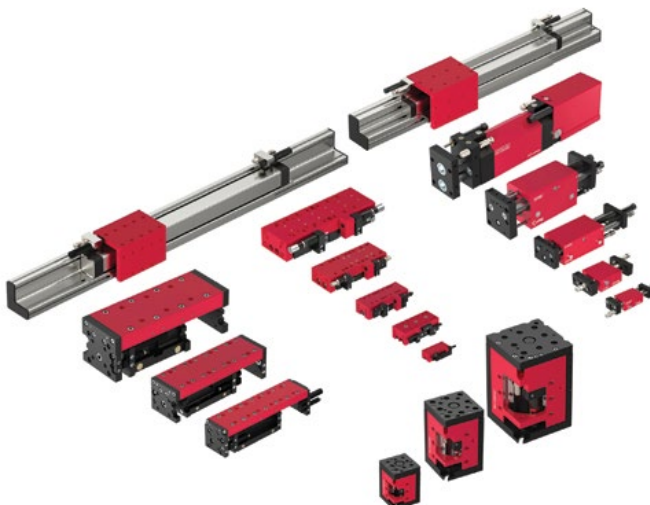
## Electric

### Technical details

Stroke	0 – 5500 mm
Force	0 – 4000 N
Payload	0 – 300 kg
Load	0 – 930 Nm

## Key benefits

- Freely programmable
- No compressed air needed
- Flexibility if products are changed, less wear and maintenance
- Smooth, quiet, interpolating processes
- Pneumatic units can be combined easily
- Smooth surfaces allow for use in clean rooms



## Pneumatic

### Technical details

Stroke	0 – 3000 mm
Force	0 – 483 N
Payload	0 – 20 kg
Accuracy	+/- 0.01 mm
Load	0 – 650 Nm

## Key benefits

- Combine modules easily to enable repeat handling functions
- Patented intermediate stop function allows multiple positions
- High loads enabled by perfect alignment of guides
- Simple to use

## Rotation modules

Emerson provides a wide range of rotation modules that are compatible with all linear and gripper modules.



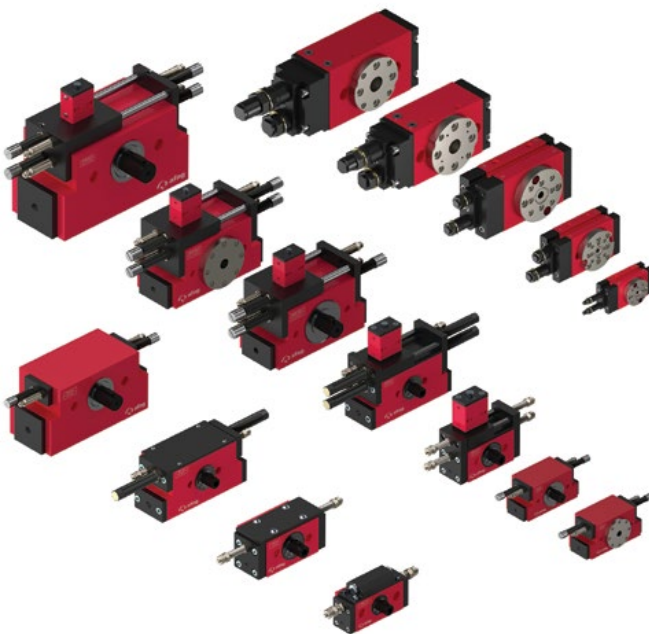
### Electric

#### Technical details

Max. speed	200 U/min
Torque	0 – 9 Nm
Torque of inertia	0 – 1.7 kgm <sup>2</sup>
Accuracy	± br (r;6")
Payload radial	0 – 1200 N

### Key benefits

- Compact size with high torque
- Freely programmable and continuous rotation possible
- Suitable for use with third-party controller
- Hollow shaft can be used for additional functions
- All fieldbus protocols available
- Extremely high positioning accuracy
- Free of play



### Pneumatic

#### Technical details

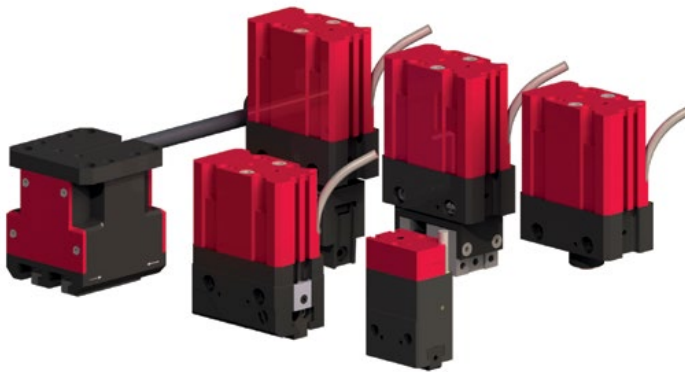
Angle of rotation	0 – 180 °
Torque	0 – 27.5 Nm
Torque of inertia	0 – 2.4 kgm <sup>2</sup>
Accuracy	< 6'

### Key benefits

- Complete range available to meet specific application requirements
- Up to four angle positions
- Variant diversity compared to the tool kit
- Variable intermediate position

# Gripper modules

A wide range of gripper modules are available for gripping objects of different shapes and sizes.



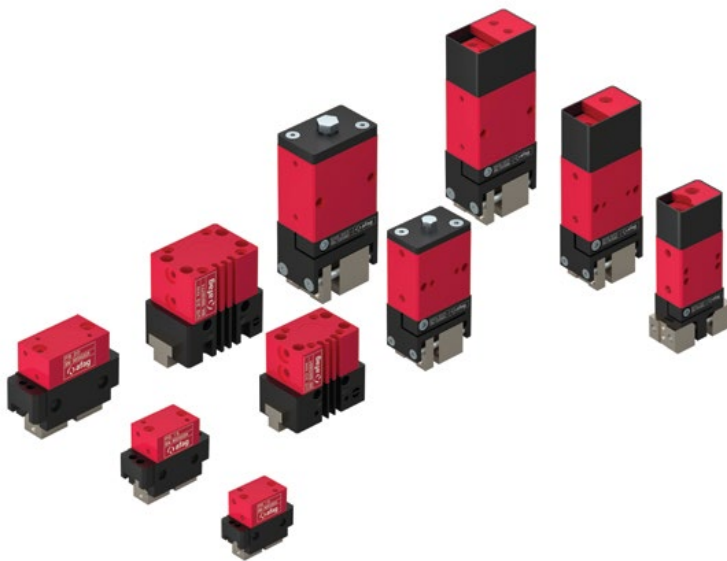
## Electric

### Technical details

Grip strength	0 – 57 N
Opening path	0 – 20 mm
Accuracy	+/- 0.05 mm

## Key benefits

- Low energy cost
- Compact design
- Self-locking in a currentless state
- Multiple gripper setup creates significant wiring savings



## Pneumatic

### Technical details

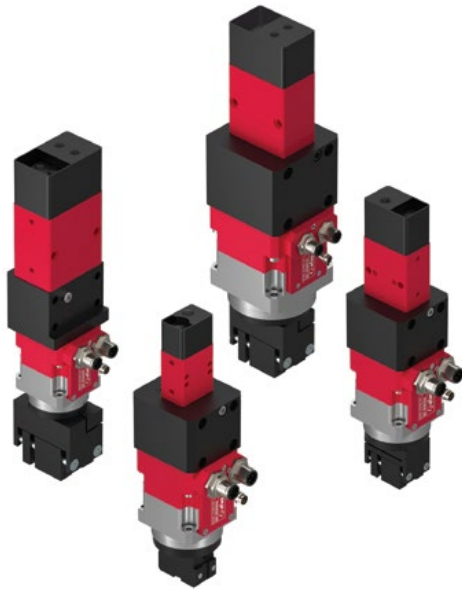
Grip strength	0 – 235 N
Opening angle	0 – 176 °
Opening path	0 – 16 mm
Accuracy	+/- 0.025 mm

## Key benefits

- Faster and greater clamping forces than comparable size devices
- Modular design provides outstanding flexibility and minimal stock levels
- Unique functions, such as adjustable opening position, length of stroke, tongs assembly angle
- Maximum rigidity of the gripper fingers through L-design
- High precision and repeat accuracy

## Gripping rotary modules

With Emerson's linear, rotary and gripper modules with pneumatic or electric drives, a wide range of individual handling tasks can be accomplished by a more manageable number of standard modules. Standard rotary modules help create a large selection of combined gripping solutions.



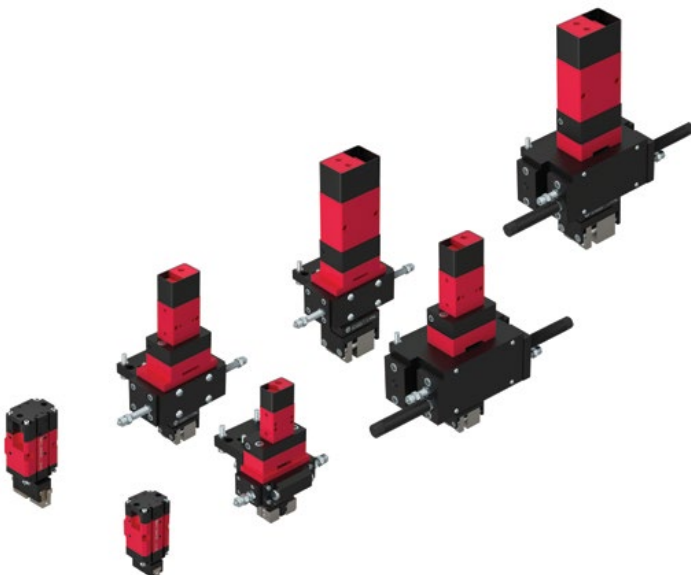
### Electric

#### Technical details

Max. speed	200 U/min
Torque	0 – 9 Nm
Torque of inertia	0 – 1.7 kgm <sup>2</sup>
Accuracy	± br (r;6")
Payload radial	0 – 1 N

### Key benefits

- Compact design
- Endlessly turning
- Exact positioning possible
- Different tongs available
- High torques and speeds



### Pneumatic

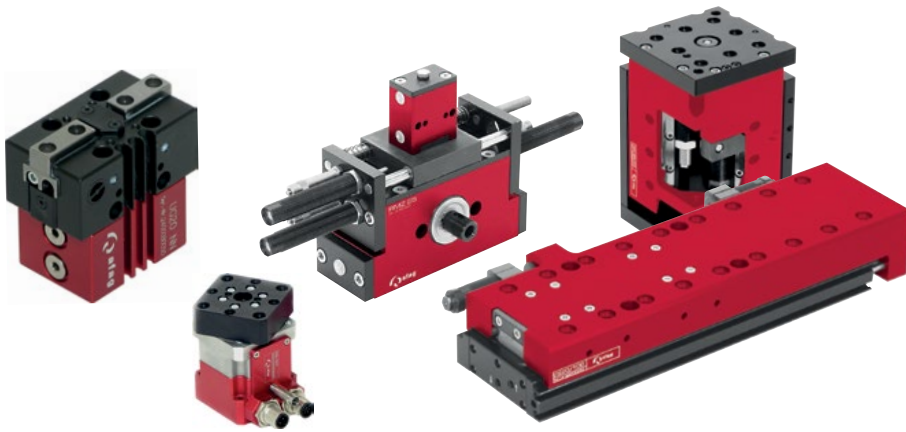
#### Technical details

Angle of rotation	0 – 180 °
Torque	0 – 2.5 Nm
Torque of inertia	0 – 0.4 kgm <sup>2</sup>
Accuracy	< 5'

### Key benefits

- Fewer modules required to perform a broad range of handling tasks
- Compact design
- Gripper function available
- Maximum of four positions can be selected
- Different tongs available

## Modular solutions that simplify the design of high-performance parts handling systems.



Our modular system allows you to easily combine differently sized modules. As a result, you can even combine pneumatic modules with electric axes and grippers.

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