

Reciprocators & Positioners

Cost reduction and quality improvement through automation



Systems for automatic powder coating

Making the right choice of automation will save a lot of money!

Gema offers a broad range of reciprocators & positioners with different levels of automation selected to meet the individual needs of the customer.

Gema

The Global Leader in
Powder Coating Technology

The base for all motion



Reliable and precise

Quiet running, individual programming options and stability combined with high loading capacity are indispensable for uniform powder coating. The reciprocators of the ZA series meet these requirements perfectly and feature a solid and maintenance-friendly design. They constitute the base for all automation, from simple vertical strokes to complex and multidimensional processes.

Benefits of the ZA reciprocators

- Long-stroke and short-stroke operation
- Timing belt transmission for quiet running
- Maintenance-free AC-motor
- Narrow column design for space-saving gun configurations

OptiMove Control



The OptiMove axis control unit is user-friendly, allowing ease of programming. Each control module controls a single axis. Despite its compact design, OptiMove offers many functions normally found in more complex control units.

Features:

- Programming via touch panel
- Up to 255 programs
- Segment operation and stroke adjustment
- Cycle times displayed
- Integrated DigiBus / CAN-bus

Detection of gaps, height and width

Gap detection

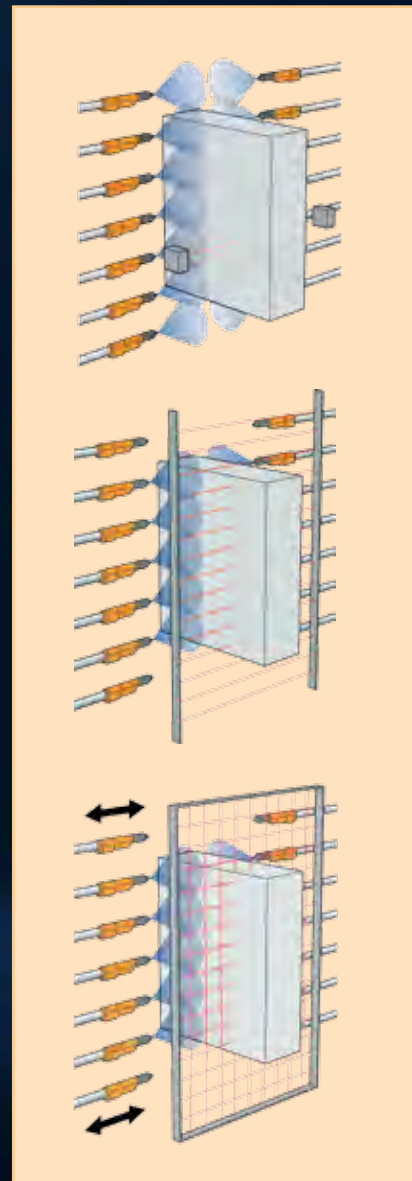
The gap control turns off the guns where a gap is detected. For this reason a light barrier detects the object to be coated at the booth entrance and the guns are only activated just before the object passes through. In case of a gap, the guns are turned off after the object has passed.

Height detection

For the height detection a light grid is used, which automatically triggers the required guns. With horizontal gun arrangement, the reciprocator stroke lengths are automatically adapted to the object heights.

Width detection

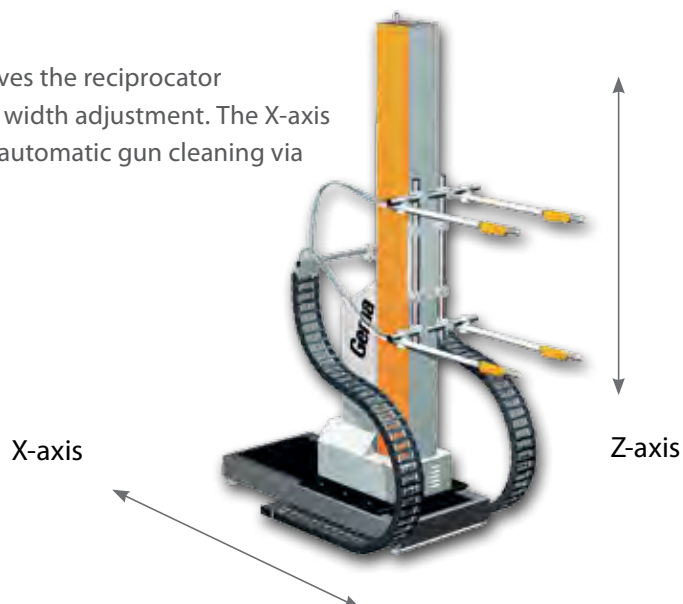
In addition to the gap and height detection systems, the width detection automatically adapts the reciprocators via X-axes to the variable object widths. Ideally the guns are arranged vertically, so that the object contour can be scanned exactly.



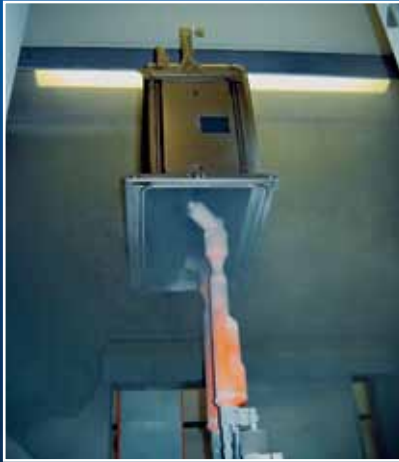
Standard axes for all applications

Z-axis: This is the standard axis. It moves the guns in a vertical direction.

X-axis: This axis moves the reciprocator horizontally for the width adjustment. The X-axis is also used for the automatic gun cleaning via blow-off nozzles.



Multidimensional solutions



Synchronization with conveyor (Y-axis)

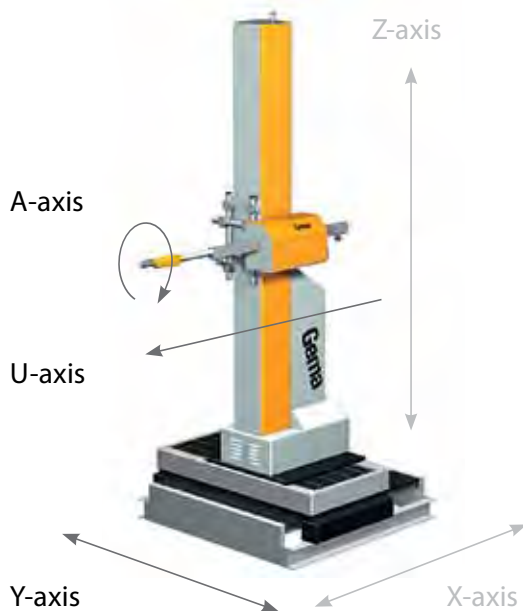
This option is used for the inner coating of hollow bodies such as ovens and control cabinets. A rotary encoder synchronizes the reciprocators to the chain speed, guaranteeing accurate coating of edges, recessed parts and hollow elements. The ideal coating data is calculated beforehand and stored in a database, where it can be recalled at any time.



Infeed axes (U-axis)

For special object geometries and applications, there are different axes available (with rotating axes if required). These are equipped with an independent drive, which accurately drives the gun in and out of predefined zones.

Special axes for complex applications



U-axis:

The U-axis moves the single guns horizontally, one by one, into the recessed areas of the object.

A-axis:

Rotates the spray gun around its own axis.

Y-axis:

Moves the reciprocator synchronised with the conveyor along the booth.

Robots & rotating axes

Robots

When the highest flexibility and free programming are required, robots offer the perfect solution. The programming is done via "teach-in". They track the geometry and motion sequences with the spray gun, whereas the robot stores the data for the coating process.



Rotating axes (A-axis)

Rotating axes are ideally suited for the coating of inner edges and recessed parts (for example on control cabinets and rotating parts). They accurately trace the rounded geometries and guarantee optimum coating results even on difficult-to-reach areas.



Special axes

Solutions for complex applications

Special application cases need special solutions. Thanks to our vast experience and wide range of products, we will find, in close collaboration with you, the ideal axis geometry for your specific needs.





OptiControl

- Fully programmable, PC-based module
- 12" color touch-screen monitor
- Controls guns, axis and object recognition system
- Interlocking and data exchange with higher-level plant control units
- Storage of operating software and application programs on CompactFlash cards
- Ideal solution to upgrade existing lines with advanced functionalities

MagicControl

- Fully programmable, PC-based master control
- 12" color touch-screen monitor
- Full control of all the system components as booth, guns, reciprocators, powder supply, object recognition system.
- Interlocking and data exchange with higher-level plant control units
- Storage of operating software and application programs on CompactFlash cards
- Integration into control cabinet or pedestal mounted

Comfortable programming

Individual storage

What is CAN-Bus/DigiBus?

A bus is a transfer system with corresponding control components, which serves to exchange data and/or power between hardware components.

This technology allows the data exchange between the components of the Gema system. Your work becomes more comfortable and process-safe!

You can overview the entire powder coating system and choose all parameters directly via the screen. The clear icons and action messages offer your coaters an intuitive operation of the control systems.

Your individual coating programs are precious, that's why you can store them onto CompactFlash cards. Call up your specific programs via the icons to repeat your coating results at any time.



Cost reduction and quality improvement with Gema reciprocators and positioners



Benefits of the ZA reciprocators

- Long-stroke and short-stroke operation
- Timing belt transmission for quiet running
- Maintenance-free AC-motor
- Narrow column design for space-saving gun configurations
- Broad assortment of axes
- Wide range of control options
- Positioning accurate to within a millimeter
- Vast program diversity

The powder coating world of Gema



Gema

Your global partner for high quality powder coating

Benefit from our knowledge based on more than 40 years of electrostatic powder coating experience.

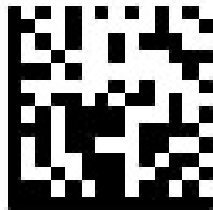
From simple manual coating units to fully automated powder coating systems, we offer the best possible solution to satisfy all of our customers in different countries and in different market segments, customers who all have their own individual needs and requirements. Our worldwide network guarantees professional service anywhere, anytime!

We make our customer's products more durable and attractive. Our finishing experts create the technologies, processes and materials that regularly set the standard for the industry.



Gema

The Global Leader in Powder Coating Technology



gemapowdercoating.com

Phone: 800-628-0601

Gema reserves the right to make technical modifications without prior notice.

Illustrations in this leaflet may contain optional equipment and do not necessarily show the standard configuration. OptiCenter, MagicCenter, OptiSpeeder, MagicCompact, MagicCylinder, OptiFlex, OptiStar, OptiGun, OptiSelect, MagicControl, OptiControl and OptiFlow are trademarks of Gema.



Member of
The Powder Coating
Institute

