



## Zero-G

Support equipment



ZERO-G is an exclusively pneumatic manipulator for handling flat glazing and windows in absolute safety. By means of the load gripping equipment the spatial positioning of the object handled can be monitored constantly across an extensive working area. Its ergonomic design allows for tilt and rotation movements that ensure high speed and flexibility throughout the entire work process. The suction cup gripping system in conjunction with the weight balancing system enable movements to be made along two axes throughout a working area having a radius of up to 6000 mm. The configuration on a free-standing base allows maximum freedom of movement within the production facility.



**Balancing system**

The balancing system, by means of a thrust device mounted on recirculating ball bearings and linear guides, ensures perfect compensation of the vertical load in any position and along the entire stroke. Zeroing of the product weight is done by means of a preselector that is adjusted manually, or by the push-button lever balancing system (optional).



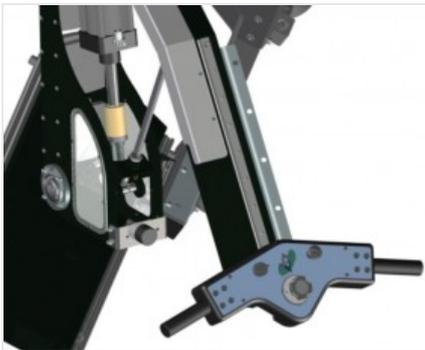
**Product gripping**

Product gripping is quick and easy thanks to suction cups controlled by an extremely efficient vacuum system. ZERO-G can handle different product geometries by adjusting the position of the suction cup system.



**Pneumatic functions**

ZERO-G allows the operator both 90° pneumatic tilting and 90° pneumatic rotation of the product independently of each other. Both functions are controlled directly from the console and are proportional in nature, thus also allowing grasping from trestles or inclined stands.



**Ergonomics**

The unique console is ergonomic and practical in use; with controls arranged in a simple and intuitive manner, the operator feels at ease from the very first movements and is able to take full advantage of Zero-G's potential, safely guiding the product in any direction with minimal effort.



**Self-standing base**

As an alternative to ground anchoring, Emmegi offers the self-standing base solution. After installation, the base manipulator system can be moved easily within the company and used in any work area where a connection to the pneumatic system is available. The self-standing base is equipped with slots for forks for easy movement by forklift.




**ZERO-G / SUPPORT EQUIPMENT**
**FUNCTIONS**

Support column mechanically anchored to the floor	●
"Industry 4.0" CONNECT option	○
Self-standing base structure	○
Push-button lever balancing system	●
Handle and controls on pneumatic sliding console	●
Pneumatic tilting for moving the doors from horizontal to vertical position (°)	0 ÷ 90
Pneumatic product rotation (°)	0 ÷ 90

**CHARACTERISTICS**

Maximum load capacity (according to model) (kg)	200 ; 300 ; 500
Maximum working radius (according to model) (mm)	3.000 ; 4.000 ; 5.000 ; 6.000
Grip/release height (mm)	0 ÷ 1.500
Min-max height under the product for gripping and releasing on a stand (mm)	150 ÷ 400
Min-max height under the product for gripping and releasing on the bench (mm)	600 ÷ 1.000
Min-max axis height of the gripping point - vertical grip position (stand) (mm)	550 ÷ 2.150
Min-max axis height of the gripping point - horizontal gripping position (bench) (mm)	250 ÷ 1.850
Number of suction cups of gripping system	4
Number of excludable suction cups	2
Max load with suction cups excluded	50%
Pneumatic adjustment of suction cups width	●
Suction cups area limit dimensions mod. 200 kg (mm)	430 x 1.700 ÷ 1.000 x 430
Area limit dimensions with 2 active suction cups mod. 200 kg (mm)	250 x 1.700 ÷ 250 x 430
Suction cups area limit dimensions mod. 300 kg (mm)	550 x 1.700 ÷ 1.100 x 550
Area limit dimensions with 2 active suction cups mod. 300 kg (mm)	300 x 1.700 ÷ 300 x 550
Suction cups area limit dimensions mod. 500 kg (mm)	800 x 1.800 ÷ 1.250 x 800
Area limit dimensions with 2 active suction cups mod. 500 kg (mm)	400 x 1.800 ÷ 400 x 800
Free ceiling height (mm)	4.500
Required pressure (bar)	8
Door minimum dimension (according to model) (mm)	1.200 x 400 ; 1.200 x 800
Door maximum dimension (according to model) (mm)	2.200 x 1.000 ; 2.500 x 2.000

Included ● Available ○