



OCTOPUS VACUUM GRIPPING SYSTEM - GENERAL DESCRIPTION

3D drawings are available on vuototecnica.net

The OCTOPUS system is our answer to the ever increasing requirements of operational flexibility for palletising robots and vacuum gripping systems in general.

In fact, this system allows gripping objects of any shape and nature, provided that they do not have an excessive transpiration, without having to place or change vacuum cups, and even when their surface occupies only 5% of the entire suction plate. The maximum weight of the load to be lifted will obviously be proportional to the gripping surface.

Standard OCTOPUS systems are composed of:

- One or two compressed air-fed vacuum generator as shown in the picture and in the drawing, that has to be ordered separately, since it is not included in the code, with the exception of item SO 15 20 MX.
- An anodised aluminium box, open on one side, with a built-in micro-fine mesh filter in stainless steel that protects the vacuum generator and is very easy to inspect. On the top outside of the box there are one or more connections for possible installation of control devices or solenoid valves for prompt restoration of the atmospheric pressure on its inside.
- A suction plate sealing the box, also made with anodised aluminium, with calibrated holes equidistant from each other and coated with a special perforated foam rubber. This suction plate can thus perfectly adapt to any gripping surface, whether it be smooth, rough or irregular. With the same system, for instance, it is possible to grip and handle cardboard boxes and the wooden pallet that supports it. These OCTOPUS systems are also available upon request in dimensions and with vacuum tables and vacuum generators other than those indicated in the tables.

SPECIAL SOLUTIONS FOR ALL SECTORS WITH OCTOPUS VACUUM GRIPPING SYSTEMS



CERAMICS



PACKAGING



MARBLE



PLASTIC



FOOD



PHARMACEUTICALS



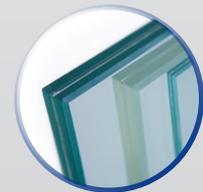
WOOD



CONSTRUCTION



PALLETS



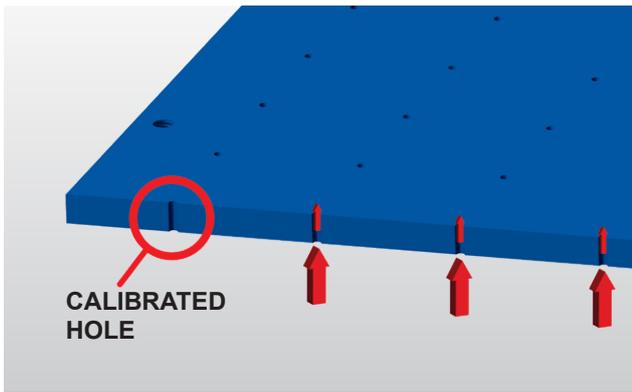
GLASS



CAN

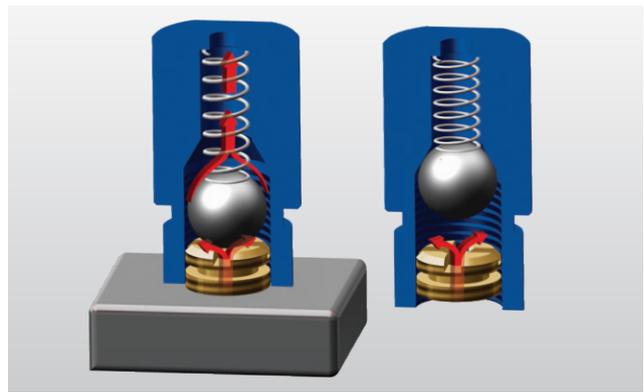


TECHNIQUES USED FOR THE CREATION OF OCTOPUS SUCTION PLATES:



WITH CALIBRATED HOLES

The calibrated holes drilled onto the aluminium suction plates, based on their number and cross-section, allows for the selection of the exact flow rate of the vacuum generator to be used: in fact, when the vacuum differential is reached with all calibrated holes of the open suction plate on the OCTOPUS system is 0 mbar, this means that the flow rate of the vacuum generator used is correct, but due to the operating principle of the OCTOPUS systems, it will be necessary to increase it to obtain a vacuum differential greater than 0 mbar. It will therefore be necessary to use a generator with a higher flow rate to obtain a vacuum differential greater than the greater the flow rate of the generator used. In this way, it is possible to determine which percentage of the surface of the load to be gripped can remain uncovered during the gripping phase, in compliance with the safety parameters. This technique requires a greater expenditure of energy with respect to the use of shut-off valves.



WITH SHUT-OFF VALVES

Shut-off valves, when properly calibrated, allow a certain quantity of fluid to go through; afterwards, if the fluid continues to go through, they automatically close. When applied on the suction plates, without a load to be gripped or in the presence of a defective grip on foam rubber, they automatically close suction, thus preventing the level of vacuum from lowering on the remaining holes or vacuum cups that are regularly being gripped. This feature reduces the vacuum generator flow rate compared to standard OCTOPUS systems, to the benefit of energy savings. Moreover, the particular shape of our shut-off valves allows the use of the gripping surfaces in any position.

