

Italy

BEDESCHI's New Grippers Technology

Thanks to the cross competences developed in different industries applications and its long experience in handling and automation in the heavy clay ceramics sector, BEDESCHI designed and manufactured a wide set of special grippers to be installed on robots for the handling of wet, dry and fired bricks. The aim is to constantly offer to its customers state-of-the-art solutions, as to solve their main operative problems and improve their plant output. The challenge was accepted by the BEDESCHI R&D Department, that can draw on skills and know-how created in more than a century to face it up. The goal was to design lighter grippers, adaptable to a broader range of anthropomorphic robots while maintaining the mechanical strength and reduce the wearing of the spare parts, ensure maximum gripping elasticity, avoiding deformation and/or breakage of the handled product. It is important to consider that a weight reduction ensures handling more material with the same energy consumption, reducing energy waste.



Fig. 1 The new grippers technology developed by BEDESCHI

As a result, the Padua-based company has recently started a series of modernisation measures for stacking, unstacking and packing systems, being awarded the supply of special pneumatic grippers for robots in substitution to the underperforming old ones by the historical Group Wienerberger/AT.

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To meet client needs, the new grippers are manufactured with a particular aluminium alloy to ensure higher performance and weight reduction.

Special application was taken into consideration to guarantee a better material gripping providing each gripping wall with independent hardened stainless-steel blades with special rubbers.

Finally, a special compensation system was delivered to ensure proper layers positioning during stack formation on the kiln car. BEDESCHI has been awarded an ambitious project for another important facing bricks manufacturer. The goal was to study and supply technological solutions in order to reduce the number of machines installed in

the product handling lines, while maintaining the aim of reducing maintenance and consumption.

The company installed a product line with two automatic setting robots for dried products, each equipped with independent ten-finger grippers to ensure fully customised configuration of the machines. Each of these ten fingers is independently controlled by a servo engine giving the possibility to have setting pattern of different configuration which could be adjusted by the operator for each single layer. To ease the production line, this particular gripper can be associated with an automatic changing device to the robot for the semi-automatic storing system.

Thanks to all the solutions that BEDESCHI can offer, for another project of plant modernisation, the company replaced the existing setting lines for dried products with two "traditional" five-head grippers with pneumatic and rotating heads. BEDESCHI R&D Department is constantly working to improve the capability of its systems, focusing on the environmental protection, energy efficiency and pollution prevention that will become

even more important in the industries. This is where the company is pushing the upcoming technology development efforts.

In recent years, BEDESCHI has been working hard to use eco-friendly materials, and this has led the company to develop a complete line for filling bricks with granulated mineral wool, a solution that delivers excellent thermal insulation performance, or the construction of a line to produce a large portion

of prefabricated walls to be transported at site ready to be installed. These solutions meet very high thermal insulation standards but, above all, guarantee exceptional savings in terms of erection time. Recently, the Italian company has also developed highly automatic lines for the handling of different products from bricks and blocks to roofing tiles and accessories, all in conformity with Industry 4.0.