



New recess control tool integrated into Dimac autotrigger 360° dimensional station

Among the most valuable elements of Dimac technology for 100% control on metal disc indexed machines, there is certainly the 360° side station, equipped with reliable and robust mechanics as well as proprietary management software, called autotrigger, which optimizes image shooting times based on the actual rotation speed.

From the second half of 2023, this station can also be equipped with recess control. The key point of the new station is the special spring-loaded bit-holder, designed to speed-up and facilitate the bit driver insertion into the head-recess. The depth of the slot is measured indirectly based on the bit penetration measured by the side camera.

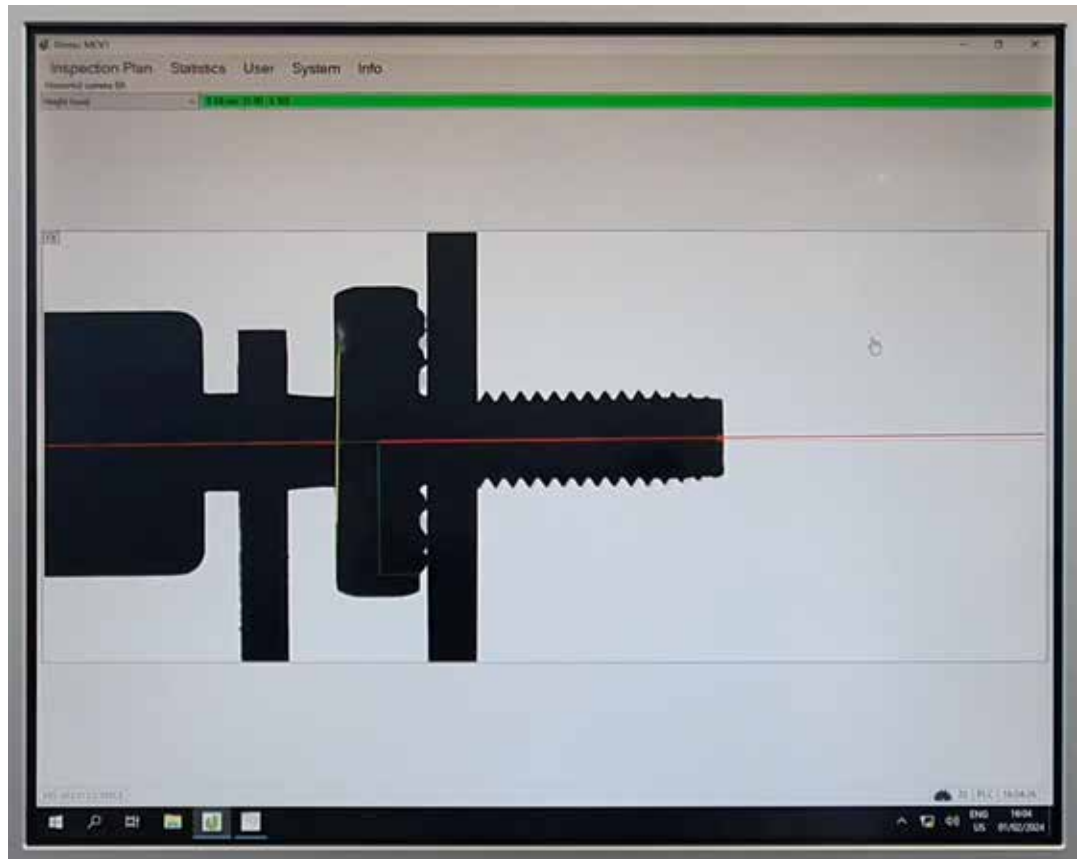
The project for this new and original solution has been registered at **the Ufficio Italiano Brevetti e Marchi**. This is the third patent application presented by Dimac in the last three years, and follows closely that one of the new electro-mechanical control station for M6 threads based on threaded rollers, and the most complex international patent relating to the SPC-control system EVO.

Why patenting?

The patent should not only be seen as a tool for defending intellectual and economic property of a project, but also as a goal of the complex technological development process. It is the moment in which the value of the efforts, economic and intellectual, put into continuously innovating its proposal to the sector, are conferred and recognised.

The patent, therefore, is not the reward of an individual's act of genius, but the direct consequence of a specific market positioning strategy which is based on cultivating and maintaining technological leadership in the quality control of small metal parts.

Regularly patenting our solutions also involves the definition of a specific organizational approach systematically oriented towards research and development activities. Starting from the definition of the desired requirements, studying the pros and cons of what already exists on the market, we propose a new original vision with the awareness of the technical and industrial value created.



Features

The new station with spring-loaded bit-holder, developed for the mcv1 and mcv3 sorters could be easily installed as an upgrade on existing machines, and allows to obtain some important advantages:

- The recess-depth measurement is carried out by the vision system, **the control is more precise allowing accuracies <0,1mm.**
- The system can detect **major depths and minor depths out of tolerance**, (the conventional stand-alone recess inspection station allows to detect only minor depths)
- A unique station to combine dimensional inspection 360° and recess depth measurement allows **cost and space savings** against the configuration where the 2 types of controls were separated.
- **The pseudo-rejects percentage is drastically reduced** because the special spring-loaded bit holder is more efficient when engaging the recess.
- The output rate of the combined 360°-dimensional control + mechanical recess can typically reach 130 pcs/min.

The new station has been primarily conceived for screws with socket-head and it has been tested for recess like: hex 2.5 to 12 mm, Torx® T6 to T60, Phillips® or Pozidriv® 3 to 10mm, and for all the sockets with depth up to 7 mm