Innovation Alley

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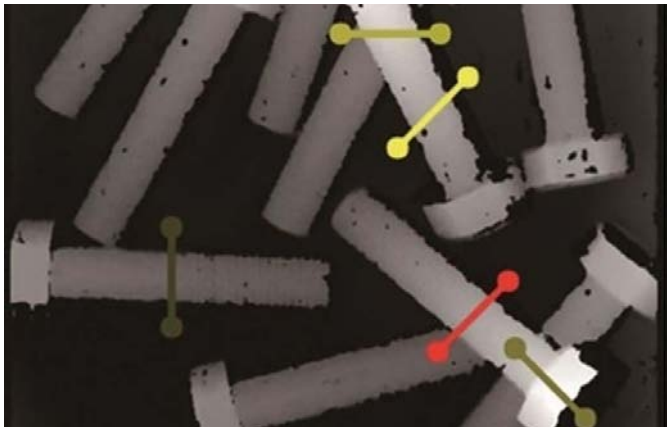
" THI-8R Evolution " Thread Rolling Machine

"THI-8R Evolution" developed by Sanmei Works Co., Ltd is an 8mm (diameter) thread rolling machine with a speed of 400 rotations per minute, 30% faster than old models. The machine will launch sales within this year and is applicable to automotive screws production. It comes with a cooling device against frictional heat. Its panel shows the temperature change of die rams, and if the rams reach a specific temperature, the machine would stop to prevent die galling. Operation is simple because the user can adjust the rams via the rotatable control device and determine the position of dies via the touch panel.

Erwin Halder Clamp Lock Pins

The clamp lock pins are ideally suited for connections which have to be released regularly. Their key advantage: Unlike other solutions, these pins can be fitted into short blind holes: Fastening the connection requires that the pin be inserted into the blind hole. A press of the button on the handle releases the balls, allowing the user to easily slip the pin into the bore hole. When the button is released, a taper on the interior pushes the balls outward again. The friction generated between the balls and the component clamps the clamp lock pin into place, securing the connection. Another push of the press button is all it takes to release the pin again. This will release the locked balls again, allowing the clamp lock pin to be removed effortlessly. This mechanism allows for the quick connection and release of two parts without the need for any additional tools.



The clamp lock pins are available with mushroom-type knobs measuring 6 mm, 8 mm, 10 mm, 12 mm and 16 mm in diameter and with lengths ranging from 10 to 120 mm - depending on the version. The user can choose between two material options: a version made from stainless steel (1.4305) or a version constructed from precipitation hardened stainless steel (1.4542).

Precise Pickup System for Screws and Parts

Professor Harada Kensuke from Osaka University developed a system for robots to accurately determine pickup locations in each operation. When the robot picks up a part, the camera measures the actual pickup location and its margin of error to the target location. The margin of error will be reflected on the next determination of pickup location. After a few times of confirmation, the margin of error will be rectified.

The rectification can be done just by simple mathematic determinants, and therefore, creates less burden. When picking up and placing a certain part, the robot only has to show the part to the camera once for measurement and then it is done. In the professor‘s lab, he set an initial 10mm margin of error to the pickup operation of screws, and the margin was reduced to less than 5mm after several times of confirmation. This system is simple without requiring additional equipment, and therefore, its implementation is easy.