

# ITALIAN MACHINE TOOLS, ROBOTICS & AUTOMATION INDUSTRY ~ NEWS

Nov 2023

PIATTAFORMA INDIA PROJECT

NEWSLETTER NO. 83



UCIMU-SISTEMI PER PRODURRE



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## **MOLD MAINTENANCE - THE HIDDEN VALUE OF A SPOTTING PRESS**

*As mold complexity increases, so too does the complexity of maintenance, which advances the role of spotting in mold validation.*



In the highly competitive plastics industry great emphasis is placed on precision, efficiency and productivity, but people often forget about the importance of completing the mold process. If a mold builder invests resources into high-precision machining, yet tests its molds using an overhead crane, how can he assure his customers that the molds are properly validated? With a high-precision spotting press, a mold builder can say, "This is how we know the mold is accurate." This validation not only completes the mold process, it also provides the quality assurance of a premiere mold manufacturer.

As molds become more and more complicated, so does the checking and maintenance process. In turn, technology advances and so does the role of a spotting press to validate a mold. Having a high-precision spotting press provides a shop owner several advantages.

**Safety.** The first criteria in the design and manufacture of a spotting press should be safety. A high-precision spotting press minimizes dangerous mold handling associated with cranes, forklift trucks and other lifting equipment. Different from the mechanical multi-hole or toothed bar system, a high-precision spotting press has a safety device that prevents the press ram from falling, in case the hydraulic system fails. Safety devices are externally connected and always locked, which adds an extra safety measure.

**Ergonomics.** A high-precision spotting press is designed intrinsically with the maintenance crew in mind. Both platens should have the ability to tilt at varying angles, which helps avoid stressful maneuvers when performing mold maintenance, by making the molds easily accessible. Some presses have a compact design that allows the mold maintenance technician to approach the mold from a variety of angles with a simple tap of a control touch panel. For example, a press with the upper platen rotating 360 degrees and the lower platen rolling out and then tilting 75 degrees. This same approach can be applied to medium and large molds where the upper platen withholds the capability of flipping 180 degrees and the lower platen rolls out, then tilts 70 degrees to either the left or right. This allows workers to ergonomically adjust both platens with the benefit of working on the same side.

**Productivity.** Some shops use production molding presses to adjust a mold.

This method is dangerous.

It is difficult for technician to work on it.

Molding machines need to be in production continuously utilizing molding machine for spotting or maintenance of Mold is net loss of Production Time.

The features available on Spotting press helps operator to finish the work faster with better quality which is impossible when you use Molding Machine for spotting.

Considering increased complexity of molds (for example, multi-shot molds), a built-in rotational table on a high-precision spotting press allows shops to simulate mold production instead of taking up precious molding machine time. All in one setup, two-shot molds can be tested, adjusted and checked in a safe and simple manner, saving time and money.

**Accuracy.** High-precision spotting presses have high repeatability and accuracy. Trials can be further improved by testing hydraulic slides, auxiliary cylinders and ejectors. Thanks to a parallelism control system which can gauge the upper plate's position to ensure an even stroke. Today there is a lot of focus on mold accuracy, as many companies cut to net shape and negative stock on their cores and cavities. This parallelism control unit accurately brings the two halves together with precision. This technology features four electronic measurement devices, which continuously check the press' upper plate position and parallelism while comparing it with the lower plate. Encoders are located diagonally in the four external corners of the upper plate with the columns. The measurements are displayed on a touch panel for the entire stroke. If the preset limit parameters are exceeded, the stroke's movement is immediately disabled and the error is displayed. Parameters can be exceeded when hydraulic cylinders not being retracted or tools are being left in the mold (for example, scrapers, grinders, slip gauges and hammers). Some presses use optic scales to ensure the upper plate's movement is even, while the lower platen is locked into position.

**User friendly Control** Spotting operations of a high-precision press are intuitively controlled through a control touch panel that makes press functions clear, straightforward and simple. Additionally, the diagnostic program immediately reports on the display any anomalies that occur during operation. Each movement of the press is represented by a specific pictogram. In case of a malfunction, the relevant point is shown on the specific page for a quick solution. This helps minimize downtime, quickens troubleshooting and reduces service costs, especially after the warranty period.

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The project Piattaforma India has been promoted by UCIMU – Association of Italian Machine Tools Manufacturers and AMAPLAST – Italian Plastics and Rubber Processing Machinery and Moulds Manufacturers Association. The two associations agreed on the idea that promoting a network of associations and entrepreneurs who have developed knowledge and experience on the Indian market, can be useful in favoring of new paths of development for business. The Indian companies who are interested to form JV, cooperation, technical tie up, purchase machinery etc from/with Italian companies can contact below mentioned address for any assistance:

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