

PRESS RELEASE

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Sigma Inside „cleans up“**Modular production concept for cavity specific handling and more**

Hekuma, one of the leading manufacturers of high performance automation systems, takes the next decisive step in the production process. They introduce their new concept „Sigma Inside“ which raises the bar for productivity and seamless quality control. Parts, which normally gravity drop are removed by high speed take out robots and placed in containers according to their cavity number. The modular concept allows the user to configure the system to his specific needs to ensure transparency in the QC process and traceability throughout the supply chain. The results from the first installation show a 30% increase in productivity.

Hekuma has cleared the air once and for all that utilizing a robot to remove normal „drop parts“ is a cycle time killer. The fact is that a servo controlled take out device can actually allow for shorter mold open time without the danger of mold damage. For free falling ejection, a certain “safety margin” must be included in the mold open time and closing speed.

During the removal, integrated sensors confirm that a complete shot has been removed to ensure no parts are lost and more importantly that no parts remain in the mold which may result in costly damage and related downtime. Once the automation has control, the real task of „Sigma Inside“ begins. The cavity specific handling and maintaining integrity through the process allows the user nearly unlimited possibilities.

Traceability results in customer satisfaction

Parts removed can be kept completely separated throughout the production and handling process allowing for complete traceability even to the cavity level. In the event of an “undetected” issue with one specific cavity, parts of the affected cavity can be rejected or recalled to minimize liability. If a defect regularly appears in one specific cavity, the cavity can be potentially shut off or systematically rejected without the need for unplanned downtime for mold repair. With „Sigma Inside“, parts out of the allowable specification can be so designated and placed in the appropriate container for disposition. Production can continue uninterrupted until such time as the mold repair plan can be analyzed and implemented in a logical manner.

Multi-tier Quality Standards

„Sigma Inside“ allows the user to manually remove a quality shot from the QC sample station for periodic testing. This ensures that the parts for the quality testing all come from the same shot and the parts are associated with the right cavity.

This concept can also be expanded to include the possibility of a vision inspection system for complete quality control and documentation. In the event that the same cavity is repeatedly defective, the cavity can be shut-off using the appropriate algorithm.

Utilizing the automatic sorting and shot count information will allow for easier implementation of a scientific “DOE” (Design of Experiments) in order to determine not only allowable process tolerance levels but also to facilitate a planned mold maintenance schedule

Modularity Plus

„Sigma Inside“ is highly flexible and can be used for a wide variety of applications. This is where the application specific Quick-Change parts come into play and the integrity of the cavity specific sorting is maintained. The modular design of the handling and tooling allow for extremely fast and efficient changeover times. Because of the cavity sorting, it is absolutely conceivable that “family parts” could be produced in the same mold but still maintaining the integrity for packaging and shipment.

In Hall B3, at booth 3109 of this year’s Fakuma show, Hekuma will display the new production solution „HEKUMA SI“ with „Sigma Inside“ in a clean room version producing a needle holder end cap for the medical industry. The medical application includes a 48 cavity mold from Tanner running in a Netstal Elion with 800 kN clamp force.



Operator's view of the compact production cell HEKUMA SI with „Sigma Inside“. Shown with a Netstal Elion 800 kN.



Cavity specific sorting station of the 48 needle hold end caps at the Fakuma

About Hekuma:

HEKUMA GmbH is a leading manufacturer of high performance automation systems for plastics processing systems with its headquarters located in Eching by Munich. The company continues from its founding by the automation pioneer Richard Herbst in 1974. Since January of 2000, HEKUMA is a member of the publically traded Elexis AG (www.elexis.de).

Their capabilities include design and development as well as manufacturing, assembly and testing of complex automation systems with high speed part removal robots for injection molding machinery. Since the company's inception, more than 5,000 systems have been installed in the medical, automotive, packaging and consumer products industries. The Know-How of HEKUMA is found in the precision of high speed part removal and complex end of arm tooling but also in the supply of complete production systems with secondary operations such as 100% Quality Control, product labeling, assembly and packaging of finished goods. An additional focus applies to In-Mold-Labeling for multi-cavity thermoforming molds. (T-IML-Application). HEKUMA employs approximately 130 associates.

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