Over moulding of O-Rings on flat seals

Automation of an ENGEL Flexseal 300 injection moulding machine. Machine tending is the automated operation of machine tools or other manufacturing machines in industry. More and more, robots are integrated for the tedious task of loading and unloading the machine. Asyril provides customized solutions for enhanced and cost-effective machine tending.

ENGEL’s Challenge

- Often, parts to be produced consist of different types of materials (called inserts) that are over-moulded in the injection process. Inserts first need to be loaded into the injection machine.
- In order for the robot to load the inserts, they must be presented in a specific and repeatable position and orientation.
- For small production batches that require frequent product changeover, classical feeding systems such as vibrating bowls are very limited.

The solution

- To obtain a highly flexible automated loading and unloading of the inserts, Engel developed a solution based on a six-axis Stäubli robot equipped with an Asycube 530 flexible feeder and the SmartSight vision detection system from Asyril.

Advantages

- Very compact machine thanks to low footprint flexible feeder
- High autonomy
- Loading station easily reconfigured for other kinds of inserts
- Product changeover as simple as loading new parameters, no tedious mechanical adjustments
- Increased machine availability
- Parametrizing directly with Engel CC 300 control panel
- A ready to use SmartSight plug-in for Stäubli robots offers minimal integration work and a fast return on investment.
- The nine positions multi gripper optimizes the cycle time.
- The second SmartSight camera guarantees the quality of the parts.
- The flexible feeding systems enhance the performance of machine tending.

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