

SPIROL®

INSERT INSTALLATION TECHNOLOGY

Model HA Automatic Heat Insert Driver

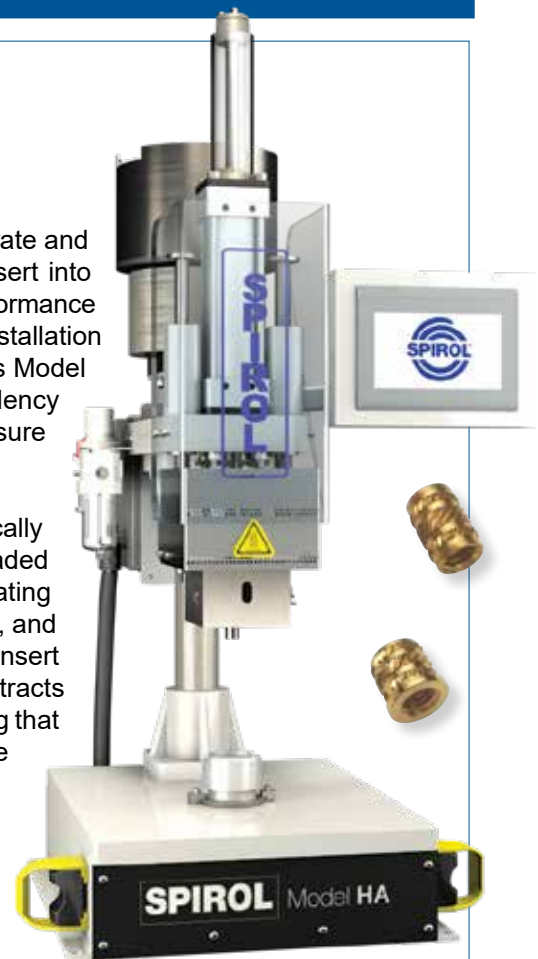
The **SPIROL Model HA Automatic Heat Insert Driver** provides an accurate and consistent method to install virtually any type of Heat/Ultrasonic Style Insert into thermoplastic assemblies. Considering that as much as 75% of the Inserts performance is a direct result of how well it was installed, all of the factors that impact installation must be carefully controlled in order to maximise performance. **SPIROL's** Model HA Automatic Heat Insert Driver has been designed to eliminate the dependency on the operator to control the factors of time, temperature and pressure to ensure nearly perfect flow of the plastic for optimal retention and performance.

With this exceptionally versatile machine, the operator does not need to physically touch the Insert during the entire installation process. The Inserts are loaded into a vibratory feeder and advance through the feed tube to the guarded heating chamber. The operator loads a plastic moulded component into the fixture, and activates the machine by simply touching the dual opto-touch sensors. The Insert is melted into the component to the preset depth, and the orientation head retracts so that the operator can safely unload the completed assembly. Considering that the Insert is already preheated to the proper temperature, the installation time is much faster than other styles of Insert Drivers.

Design Features/Benefits:

- Reliable:** - Easily adjustable temperature setting with Hi-Low temperature lock-out for optimal melt and flow of plastic
- Safe:** - Guarded pinch points and ergonomically-friendly optical sensor actuation with anti-repeat, anti-tie down feature
- Quiet:** - Silent operation eliminates the harsh noise associated with ultrasonic installation methods
- Accurate:** - Micrometre style insertion depth adjustment for precise Insert positioning in the part
 - Pneumatic operation, with pressure regulator and flow controls to precisely control the insertion force and speed
- Versatile:** - Installs Inserts ranging in sizes from M2 to M8 metric threads and No. 2 to 3/8" unified threads
 - Can be easily configured to accommodate a variety of applications
- Efficient:** - Automatic Insert feeding and installation for maximum efficiency

Optional alignment fixtures available.



Options such as rotary and linear part indexing, and part and Insert sensing can be added for enhanced productivity and heightened quality.



Application:

A specialised moulder of chrome plated plastic automobile components wanted to improve their production efficiency, and enhance the quality of their final product in a very competitive environment. Their existing process called for installation of a steel threaded Insert into their various door handle covers after the moulding process. They were manually installing the steel Insert by using an induction heating unit and a simple press. The installation process was extremely slow due to manual loading and the poor thermal conductivity of the steel Insert. In addition, if the Operator unloaded the assembly too quickly before the Insert cooled, the Insert would float out of position in the molten plastic. This process yielded erratic performance results. Production time was approximately 30 seconds per assembly, and the scrap rate was 8%.

Solution:

After a comprehensive evaluation, **SPIROL** Application Engineers recommended replacing the steel Insert with a headed brass Insert, and installing it with a standard **Model HA Automatic Heat Insert Driver**. This machine automatically feeds, orients and delivers the Inserts to a heat chamber. The Inserts are quickly heated and ready for installation upon demand. The operator simply loads the component into a fixture, and activates the machine via dual opto sensors. The machine advances, installs the Insert, retracts and resets. The brass Insert begins cooling the moment it starts to enter into the plastic, and by the time it is fully installed, it cools enough to stay in its final position. The production time is less than 10 seconds, scrap is eliminated, and the final product yields consistent performance.

SPIROL offers complimentary Application Engineering support. We will assist on new designs as well as help resolve issues, and recommend cost savings on existing designs. Let us help by visiting **Application Engineering Services** on SPIROL.co.uk.

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