

# SPIROL®

## INSERT INSTALLATION TECHNOLOGY

### Model PH Platen-style Multi-tip Heat Insert Driver



*Shown with optional  
platen fixture*

The **SPIROL Model PH Heat Insert Driver** provides an accurate and consistent method to simultaneously install multiple Inserts or Compression Limiters at multiple elevations. Simultaneous installation dramatically increases productivity and simplifies the number of manufacturing steps to complete an assembly. Additionally, the platen head and fixture can be easily changed to accommodate quick change-over to different assemblies associated with new production runs.

This machine can be used to install 12 Inserts into one assembly, or a fewer number of Inserts into a larger number of assemblies, as long as the total combination does not exceed 12 Inserts. For example, it can simultaneously install 4 Inserts into 3 different assemblies, or 5 Inserts into one assembly and 7 Inserts into another assembly – any combination up to 12 Inserts.

**Designed to simultaneously install Heat/Ultrasonic style Inserts at multiple elevations**

#### Design Features/Benefits:

- Accurate:**
- Easily adjustable temperature setting with Hi-Low temperature lock-out for optimal melt and flow of plastic
  - Micrometer style insertion depth adjustment and individually adjustable heat tips for precise positioning of the Inserts or Compression Limiters in the part
  - Pneumatic operation, with pressure regulator and flow controls to precisely control the insertion force and speed
  - Precise and easy to use timer for installation quality and consistency
- Versatile:**
- Installs virtually any size Insert and Compression Limiter
  - Can be equipped with or without heated tips
  - Easily interchangeable platen-style head with plug-in style heater wiring
  - Individual depth-adjustable heat tips to accommodate a wide range of product configurations
  - Heavy-duty twin post mount style frame is easily raised or lowered to accept various part sizes
- Efficient:**
- Simultaneously installs up to 12 Inserts or Compression Limiters on different levels
  - Linear slide fixture with shot pin lock, integral activation for ease of part loading
- Safe:**
- Guarded pinch points
- Quiet:**
- Silent operation eliminates harsh noise associated with ultrasonic installation methods

**Manual and other automated installation machines are also available from SPIROL.**



### Application:

A mold of plastic electrical conduit components had been experiencing difficulty installing brass Inserts into their products. The Inserts were being installed with an ultrasonic welder. Installation was difficult and the quality was poor due to undersized holes in the components and an unconventional Insert shape. The result was excess molten plastic at the top of the installed Insert which created an unsightly appearance. In addition, oftentimes the Insert was not in the proper location due to the incorrect hole sizes. Secondary operations were required to remove the excess plastic, and a high percentage of parts were rejected. The production rate was one finished part per minute; sometimes longer depending on the complexity of the part. There are two Inserts per part.

### Solution:

**SPIROL** Engineering reviewed the details of the assembly, and recommended replacing the current custom Inserts with **SPIROL's** standard **INS 29** symmetrical Inserts and the use of **SPIROL's** **Model PH Platen Style Heat Insertion System** for installation. The conductive heat method with consistent pneumatic installation pressure resulted in extremely high quality installations with an excellent appearance of the finished parts, and superior performance of the Inserts. The process yielded six completed assemblies in the time that it previously took to complete one. This productivity improvement alone, not including the elimination of scrap, allowed the machine to pay for itself in less than one year.

The machine was provided with quick-change tooling sets to allow the assembly of ten different style parts. Each tooling set was designed to accommodate three to six electrical conduits; depending on their size. The operator can load up to six parts at a time, and install all twelve Inserts simultaneously. When the customer expands their product line, additional tooling sets can easily be added to accommodate new parts as they are designed and marketed.

**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.com](http://SPIROL.com).

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