

Hot Insert, Cold Insert and Seal Assembly and Checking Machine



Key Elements

- Twin track vibratory bowl feeder
- 3 Axis servo controlled manipulator for hot insertion
- 2 Position fixture transfer shuttle
- Poka Yoke sensing of moulding features, compression limiters and threaded inserts
- Temperature controlled stainless steel heater blocks
- Mitsubishi FX PLC and colour touch screen graphical HMI
- Light guard

This machine was produced for an automotive plastics moulding manufacturer to automatically insert 6 threaded brass inserts and 3 steel compression limiters into a Throttle Body Moulding.

The threaded inserts are pressed into the moulding after heating them to a temperature of approximately 350 deg C and are then air cooled. The inserts are checked for correct insertion depth, with a tolerance of flush to 0.2mm proud maximum.

The compression limiters are pressed into the moulding at an ambient temperature. To achieve a cycle time of 1 moulding every 20 seconds the machine processes a pair of moulding every 40 seconds.

The mouldings are manually loaded in pairs onto the locating fixtures at the front of the machine along with 6 compression limiters. If all parts are present and correct the cold insertion is automatically performed at the front station and if successful the fixture transfers the parts to the rear station for hot insertion.

Good assemblies are returned to the front station for the manual fitting of a seal with positional verification and a single character pass stamp.

