

Case Studies: Robotics & Leak testing

Robotic Handling & Leak Testing of Pumps

Client: Leading Global Automotive Seating Support Manufacturer

Part: Pump Motor Housings

Machine supplied: Robotic handling and Leak Testing Solution.

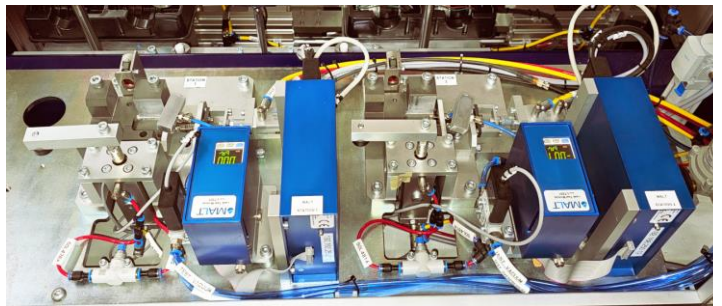
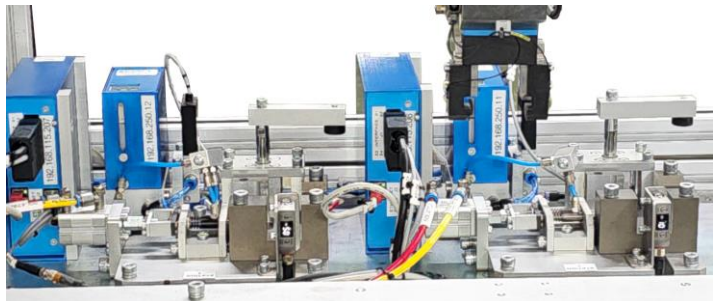
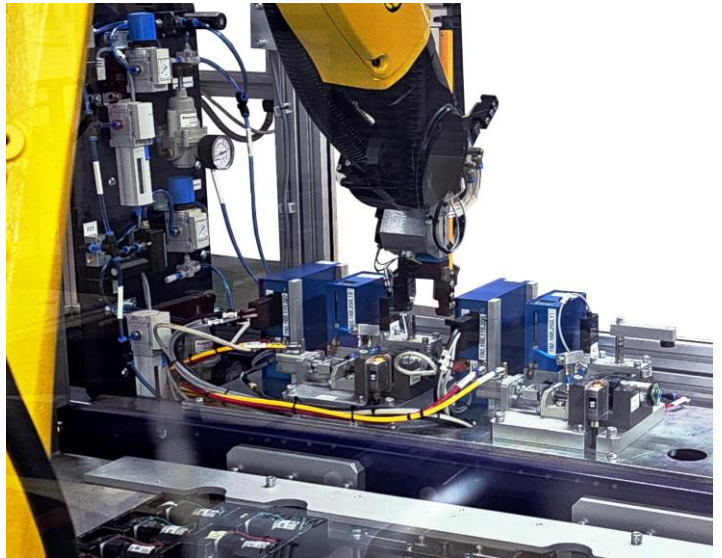
Overview: This robotic handling and leak testing solution handles automotive seating pump motor housings at 1 part every 15 seconds and ensures leak tight product is integrated into all seat comfort assemblies.



Trays of pump housings are loaded into the system where they are de-stacked and transferred to a pick up position. The previously unloaded tray is positioned next to this full tray so tested parts can be loaded into it. A Fanuc 6-axis robot with twin grippers picks parts from the tray and loads one of two leak testing stations. The robot sequence is programmed to pick a tested part from a leak test station and then reload it with a previously picked pump. This tested pump is then moved to either the passed part tray or a reject tray. In the event of a reject another 'known good pump' is picked from a replenishment tray and placed into the outfeed tray. The robot services the two test stations alternately. On completion of a full tray the walking beam transfer mechanism indexes trays along with the tray full of good tested parts stacked in the outfeed stacker. The system allows loading of new pump trays and unloading of tested pumps to occur whilst the machine is running.

Key features:

- Fanuc 6-axis robot with twin gripper
- Two leak test stations
- Multi-Application Leak Test units for vacuum and overpressure testing
- Tray based system with infeed and outfeed stackers
- Tray loading and unloading during machine running
- Walking beam tray transfer mechanism
- Reject drawer for failed parts
- Replenishment tray with known good parts to ensure outfeed trays are filled
- Approximately 30 minutes unmanned running
- Over 4 pumps per minute machine throughput
- Full machine guarding for safe operation
- PLC control.



TQC also provided a leak test bench for leak testing of variant pumps. This system allows operators to load and unload parts that have flying leads and other variations.

If you have an application that could benefit from TQC's expertise in air decay or helium leak testing, please contact us by email or phone via the contact details

Contact Us

TQC Ltd, Hooton Street, Carlton Road
Nottingham, NG3 2NJ United Kingdom

Phone: +44 (0)115 9503561

Email: sales@tqc.co.uk



tqc.co.uk