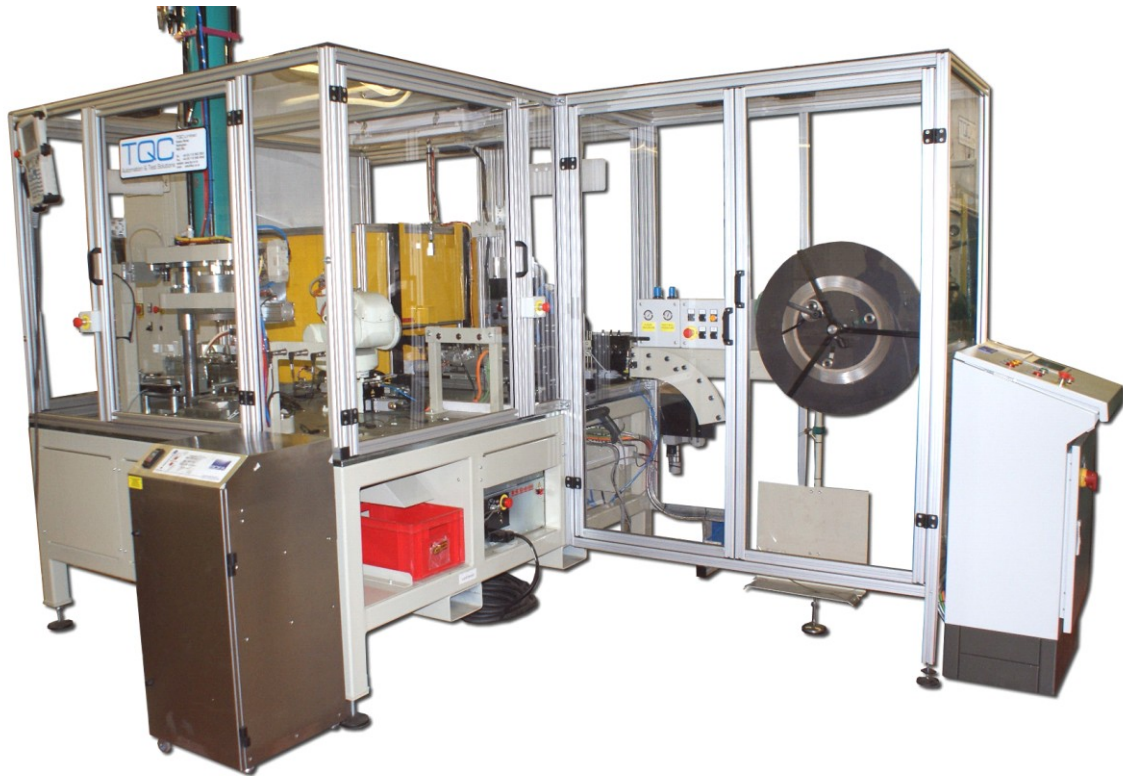


Robotic Weld and Fabrication System

TQC have designed and manufactured a fully automatic manufacturing cell for the production of laser welded metal rings.



The system incorporates multi stations that perform individual tasks to complete the manufacturing process, with a Kawasaki 6-axis robot being used to move product between the various manufacturing stations.

Reel fed material is measured out, cut to the correct length with the leading end presented for the robot to grip. The robot manipulates the strip to form the circular shape with a servo mounted gripper unit then secures the other end. The robot releases the part to allow it to be indexed into a fully guarded laser welding enclosure. The ends are welded together with vision inspection used to ensure the weld meets the required parameters.

Following welding, the ring is passed through a series of forming stations to complete the finished product. The final operation is to transfer completed parts to outfeed stack magazines. The control system monitors every station with part inspection included to ensure correct part production.

Throughout the system running, the robot manipulates parts between stations with any reject parts passed to a reject bin.

The system manufactures different sizes of rings.

