



Scalpel Blade Demagnetiser

Purpose built to demagnetise 3000 Scalpel blades simultaneously



Customised demagnetisation equipment example.

Johnson and Allen were approached to liaise with a medical blade scalpel manufacturer. After sharpening, complete cleanliness and sterilisation was being compromised by the magnetic adhesion of micron sized grinding residue. Demagnetisation would have to be down to incredibly low levels to avoid particle contamination.

Thousands of blades were required to be demagnetised simultaneously to keep up with production. The blades were stacked on a mandrel carrying 200 at a time.

We worked in partnership with the customer, first testing a small manual "rig" then producing an automatic version Pictured above (blade demagnetiser1) is a purpose built demagnetisation unit for scalpel blades.

Up to 15 stacks of blades are loaded onto the fascia of the machine.

(the picture shows one stack of 200 blades mounted into position)

Each stack is sensed via proximity switches and is automatically clamped into position after operator placement. Once placed the blades can not be removed without the machine completing its cycle.

When the fascia is fully loaded a top clamping lever is pressed which initiated the demagnetisation.

Demagnetisation is accomplished via an enclosed motorised platen type lamination and coil.

The platen demagnetiser traverses across the fascia and demagnetises some 3000 blades within 5 seconds.

The stacks of blades are unloaded and new stacks are again automatically clamped preventing the operators from accidentally removing stacks which have not been through the process.

The second photo shows the machine before loading with the 15 receptacles and top lever clamp which starts the process. Such was the demagnetisation forces involved, the mandrels had to be securely held at each end to prevent them from distortion and slipping.

The system has many advantages

- Fast
- Efficient use of energy
- No moving parts exposed to operators
- Extremely low gauss values (below 0.3 gauss)
- Fail safe, no blades can accidentally be removed from the machine which have not been demagnetised.
- Built with longevity in mind with extensive use of proximity instead of mechanical switches.
- Economic, very high throughput.

Johnson and Allen Ltd, NeoCol Wks, Smithfield, Sheffield, S3 7AR.

Tel +44 (0)114 2738066 Fax +44 (0)114 2729842.

e-mail info@johnsonandallen.co.uk

www.johnsonandallen.co.uk