

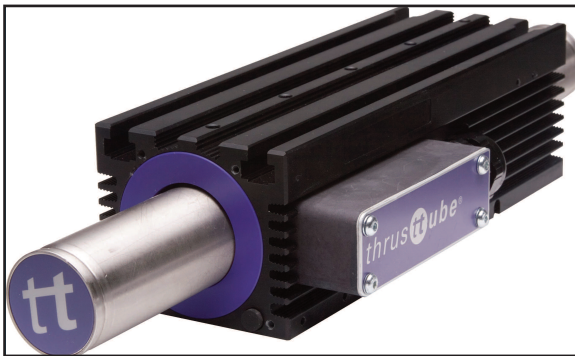
Breakdown support: first aid for machinery

When Birmingham-based health products manufacturer Cuxson Gerrard & Co Ltd had a major breakdown on one of two machines making sticking plasters, Gefran Systems Division (GSD) responded promptly to their urgent call for help to repair it.

Unfortunately, when the GSD engineer arrived at the machine he had never seen before, he found it was more than 10 years old and the faulty part was obsolete and no longer available.



The machine had been designed and made in-house by the Works Engineer who had since left and records were sketchy. It incorporated a number of servo drives, one of which was a linear motor supplied by Linear Drives Ltd, of Basildon, used for indexing the continuous web of sticky-backed material through the punch and die set which punched out the plasters.



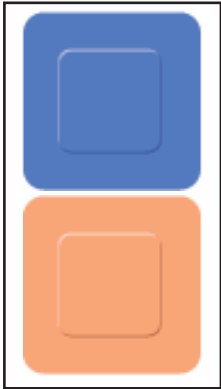
Linear motor tube and thrust block

The linear motor comprises a stainless steel tube packed with disc magnets, running through the centre of a thrust block fitted with three integral phase coils that moves relative to the motor tube when the coils are energised in sequence. The motor was powered by a Linear Drives brushless servo amplifier operating in force (current) control mode, to control the tension in the web, and its operation is controlled by a motion controller made by German company Jetter GmbH, for adjusting the length of the indexing stroke which in turn controls the width of the sticking plasters.

Cuxson Gerrard were able to rely on GSD to:

- Respond promptly to their requests for breakdown assistance
- Identify the problem and find a viable solution
- Specify and source alternatives to replace faulty components that had become obsolete and were no longer available and impossible to repair
- Make the necessary mechanical alterations to fit the replacement parts
- Use their programming skills to understand enough about the unfamiliar control system to be able to integrate the new equipment and make it work
- Complete the work in the shortest time possible

The motor coils had burnt out, causing the amplifier to fail. The first problem was that whilst Linear Drives still made an almost identical motor that could be fitted as a direct replacement, they no longer made the amplifier, having been taken over by American automation equipment company Copley Controls Corporation which chose to supply its own range of brushless amplifiers.



The next problem was to integrate the new amplifier with the Jetter motion controller, which necessitated adjusting the amplifier settings. The problem was made more difficult because Jetter no longer had technical support in the UK. However, GSD soon mastered the problem and within three days had commissioned the new linear motor and put the machine back into production.

Ironically, Cuxson Gerrard's sister machine also failed within a few weeks of the first with exactly the same fault. This time, GSD had it running again within three hours of fitting the replacement motor and amplifier.

If you are looking for a fair assessment of your machine's condition and the cost of upgrading it, please contact Gefran:

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