



THERE IS A REVOLUTION COMING IN ROTARY TABLE CONTACT SEALING OF FOIL!

Contact sealing of foils onto containers is a well established, but ancient art - it's about to be updated with:

'HIGH SPEED INDUCTION CONTACT SEALING'

Richard Bull, Managing Director, Enercon Industries Ltd.

For many years products such as; food, milk, water, coffee, ketchup, yoghurts, pharmaceutical tablets, oils (olive & auto), automotive brake fluid, household, healthcare, etc. have been foiled sealed in variety of different ways.

The high speed rotary table industry generally use hot plate contact sealing heads for this function. However, this process has its limitations on speed, due to the time element of the contact heat sealer.

Over the years, a huge amount of R&D has been committed to improve the technology in sealing containers, without a great deal of success. In fact, the current range of contact sealers available in the marketplace today find difficulty in sealing more than 450 units per minute.

Manufacturers are aware that with the current uncertainty in the economy globally - it is critical that they operate modern production facilities and are circumspect of unit cost, efficiency (especially with the escalating price of energy) and a continual rise in general overheads. All of which have an impact on the company's profitability.

'Climate Change' brings an additional amount of pressure on suppliers and contract packers to reduce packaging weight, increase recycleability and to become ever more efficient in their working practices – and it's not predicted to get any easier!

So WHY, when we know that the filler can run a lot faster, has the contact sealer speed not been improved to create this much needed unit and energy cost savings?

Manufacturers of Induction heating machines have recently provided a variety of sealing systems to improve efficiency and speed with varying degrees of success, but none, until now have, have been able to take on the high speed lines due to technical limitations such as;

- Reflected heat from the foil being heated
- Heating time cycle
- Contact temperature
- Foil thickness (causing frequency shift)

Current rotary table units run around 450 seals per minute. However, the industry is keen on working towards 600 units per minute and a couple are nearly there! This means that the contact sealers are getting into trouble as the dwell time for the seal is now too long and is restricting the top speed that the fillers can be run at.

There is a belief that, if we can overcome these restrictions of heating time, heat turbulence and seal integrity; it should be possible to fill containers at anything up to 650 per minute or 900 per minute.

Enercon Industries Managing Director, Richard Bull, said; “Enercon have always been committed to improving efficiency, saving energy and listening to their clients needs and we have now found a solution to the process of running a contact sealing head powered by induction energy, as opposed to the conventional contact heated plate.”

He said, “The big difference being - **the foil is the only thing we heat – not the sealing plate!** Once the reflected heat issues are overcome from the foil, you then need to account for the change in the foil as it heats up. To realise the super efficient line speeds, induction heads need to be able to cycle at 40 units per minute 24 hours a day – 360 days a year!

But, of course the ‘*real*’ efficiencies can be enjoyed when the line speed hits 500 to 600 units per minute and beyond”.

Bull continued, “Today, Enercon are delighted to announce that their research and development programme has now achieved heat cycles of over 40 units per minute from one power source and just one induction head – continuously.

When we accomplished this some astonishing facts resulted:

- A cycle rate of 40 units per minute equates to 1440 seals per minute on a 36 head filler.
- The energy used by an induction contact sealer saves at worst 125 watts per head per Kw hour over ordinary contact heated plate and possibly more.
- Resulting in a 25% reduction in the use of energy.
- Reducing CO₂ emissions and consequently carbon footprint.
- The foil thickness can, in general, be reduced from 60 micron down to 20 micron - A saving of more than 50% on the amount of foil being used.
- The sealing head and power unit can be retro fitted to existing lines.
- The maintenance on induction contact sealers is substantially less than contact heating plates.

In fact everyone saves money and uses less of everything! But run faster with a superior seal and lower unit cost!

If packing food is your business, your company cannot afford to ignore this gigantic, greener leap forward in technology.

More importantly, by taking advantage of this new technology it will improve your energy efficiency and reduce energy supply costs, and contribute to your economic growth, consumer welfare and employment.

For more information on '**High Speed Induction Contact Sealing**'
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