

SWITCH TO AC DRIVES CUTS MAINTENANCE COSTS & BOOSTS PRODUCTION AT INCONTINENCE PRODUCTS MANUFACTURER

Europe's leading manufacturer of environmentally-friendly incontinence products, Ontex Healthcare, has standardised on AC drives from Control Techniques for its Buggenhout plant in Belgium.

The relationship with Control Techniques goes back to the early 1990s, when most machines were fitted with DC drives. Because Ontex has 24-hour / 7 days a week working, the DC motors were subjected to severe wear and tear, with, on average, a DC motor being replaced every day. Ontex had a team of technicians dedicated to this task alone, representing a considerable cost in new motors and maintenance time. The older production lines were equipped with one main DC motor distributing power through chains, intermediate gearboxes and mechanical couplings, again a configuration that required high levels of maintenance and repair and very

little flexibility to change product format. Typically, the changeover of a line from one product to another would take a full day with complex fine adjustments requiring changes to pulley ratios for instance.

"In the past, a production line would run one product for long periods," explains electrical maintenance technician Mr Patrick Van Bosbeke. "But today, a single machine must be capable of producing a range of formats and in fast changeover times."

In recent years, the company has been changing all of its production lines over to AC, with the help of



Control Techniques' Belgian Drive Centre in Brussels. This has resulted in major benefits accruing not just from dramatic reductions in maintenance time, but with changeover times slashed to an average of just one hour, fine tuning being a simple matter of adjusting real-time speeds or torque. AC has also meant huge increases in production outputs from tissue speeds of 40m/min some fifteen years ago to today's throughput of 250 m/min!

KEY BENEFITS

- 625% INCREASE IN PRODUCTION SPEEDS
- DRAMATIC REDUCTION IN MAINTENANCE REQUIREMENTS
- FAST CHANGEOVER OF FORMATS
- FAST SPEED & EXTREME PRECISION
- HIGH RELIABILITY



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In around 80% of the projects, the drives of choice have been Unidrive SP AC drives from Control Techniques, mostly fitted with SM-Profibus modules and some with SM Application modules incorporating positioning software written by Control Techniques Engineers in Belgium. The remaining 20% of AC needs have been fulfilled by Control Techniques Commander SK AC drives. The installed base is now approaching 200 drives.

“Customers want to hold smaller stock levels,” says the Head of Electrical Maintenance, Mr Jo Decoene. “So we have to be able to react very quickly to new orders with very different product specifications. This means that we need machines with both high throughput and high reliability. Machine speeds are so high today that any potential problems can’t be seen with the naked eye,” he says. “We have to use high-speed cameras to analyse complex machine operations. That’s why the speed, accuracy and, above all, reliability of the drives is so critical. And that’s why we use Control Techniques drives.”

Ontex manufactures light to severe incontinence products (nappies) for children and the elderly. The base for most products is paper, with different materials, mostly non-woven, being fixed with glue to the paper substrate. The process requires long production lines, starting with paper reels and ending with packs of nappies. The processes which require drives include unwinding, folding, bending, gluing, packing and labelling. There is a very high emphasis on cleanliness and hygiene because of the nature of the products.

The latest line, PO4, is for the manufacture of ‘under-layers’ – comprising multiple layers of plastic, pulp in the middle and a soft non-woven inner layer. The PO4, machine, made in Italy, was chosen because the manufacturer has wide experience in

the technology required to produce very thin under-layers at high speed. “We asked the machine maker to use Control Techniques drives, then found that they were standard on the machine anyway!” says Jo Decoene. The machine, which features 18 Unidrive and Commander SK AC drives, was fully tested in Italy and installed and commissioned in Belgium in February 2009. Presently, Control Techniques engineers are upgrading the packing machine at the end of the line to allow Ontex to take advantage of the full, increased speed of the new PO4 machine.

The Unidrive SP AC variable speed drive range spans 0.75kW right up to 1.9MW. Unidrive SP is the world’s most advanced ‘solutions platform’ AC drive, configurable into five operating modes – open and closed loop, vector, servo and regenerating modes - connectivity to most industry standard networks and accepting most position feedback protocols.

With a range of plug-in module options, its on-board PLC can be supplemented with programmable and specialist feedback and communication modules.

The Commander SK range is renowned for its reliability. Commander SK offers a market-leading power to weight ratio, being around a third smaller than most equivalent drives, yet packs in amazing versatility. It is easy to fit, set up and use, with all the 10 parameters most users need being accessible from the display keypad, which is included as standard. Very important for this application is its energy-saving efficiency and its state-of-the-art manufacturing standards which are responsible for its outstanding reliability. Ontex has 16 sites in Europe and Russia, manufacturing incontinence products for hospitals and nursing homes, specialised health care retailers and for health care distributors.



For further information please visit
www.controltechniques.com



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