

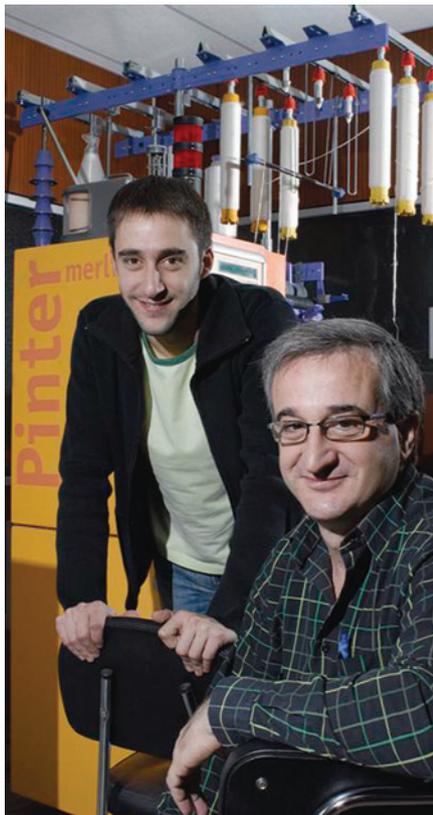
Spinning a Spanish yarn with a special twist

High performance servodrives and servomotors from Control Techniques are at the heart of special equipment designed to produce bespoke yarns in a production environment in the textile industry.

Pinter s.a. of Santpedor in northern Spain, manufactures spinning machinery, designed to work in tandem with existing textile machines.

Every machine is to an individual design with the capability of changing production from normal to special yarns (and vice versa) quickly and simply. Their range includes equipment for producing core spun yarn, slub, multicount and multitwist yarns and a unique 'test laboratory', Merlin, designed to be a research and test department encompassed in one machine.

Core spun yarn is produced by covering an elastic, rigid or semi-rigid filament with a natural, artificial or synthetic



textile fibre. This yarn, once woven, offers the intrinsic properties of the inner filament, but has the appearance, texture and quality of the outer fibre. Pinter's core yarn system is a modular accessory that can be fitted onto all types of short and long-fibre spinning frames. The production process involves feeding a continuous filament to the front drafting roller, where it is covered by fibres delivered by the feed roving.

This positive-feed insertion system has the tension of each roller controlled by a Control Techniques Dynamics UMD servo-motor with resolver feedback to a Unidrive SP AC drive operating in servo-mode. A typical machine can have four, six or eight drives and motors, each Unidrive SP fitted with an SM-Resolver option module, and communicating with the machine controller by RS485, although new models will feature Ethernet.

KEY BENEFITS

- DYNAMIC PERFORMANCE
- HIGH TORQUE
- FAST ACCELERATION
- MOTORS DON'T REQUIRE FAN
- EXCELLENT WORLDWIDE SUPPORT



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“We have standardised on Control Techniques servo systems because of their dynamic performance, high torque, fast acceleration – and the motors do not require fans,” explains Technical Director Francesc Castellà. “The drives are set up to show the draft on the drive’s display, which is a good feature. Control Techniques provide us with good support and can also support our systems wherever in the world they may go. That’s important to us.”

Slub, multicount and multitwist yarns are characterised by their irregular thickness and twist and are used to create textiles with great visual impact. Slub yarns are used in products from denim, household fabrics, shirts, knitwear or cutting edge casual wear.

Pinter’s slub equipment is based on the random programming system, whose flexibility allows for the production of all types of slub yarns, quickly and simply. In ring frames, slub yarn is produced by varying the speed of the feed and the intermediate rollers, whilst keeping the speed of the producer roller constant. The over-feed of the raw material generated by the Pinter unit’s random, rapid and controlled accelerations is what gives rise to variations in the yarn count, thereby providing the set of effects characteristic of slub yarn.

The Unidrive SP drives and Unimotors provide constant torque, low inertia, high precision and highly dynamic performance, with extremely fast response to speed changes and feedback to the drives is from integrated incremental optical encoders.

The Merlin, all in one spinning laboratory, features Control Techniques servo systems too. Merlin is a small spinning frame that incorporates different systems and programmes to create all types of yarns; slub, core-spun, devorée, siro, etc; and their countless combinations. A spintester allows users to develop new yarns, produce samples and store ‘recipes’. Pinter produces 6-spindle and 18-spindle models at spindle speeds of

up to 16,000 rpm and with 150 to 2,000 twists per metre.

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, configurable for all types of AC motors, including linear motors, and accepting 14 position feedback protocols. With a range of plug-in module options, its on-board PLC can be supplemented with programmable modules.

The Unimotor range of three-phase, 6 or 8 pole permanently excited synchronous motors, with sinusoidal back EMF characteristics, is available in 75, 95, 115, 142 and 190 frame sizes, with rated speeds up to 4,000 rpm and rated torques up to 54.7 Nm.



For further information please visit
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