



Welcome to a special edition of All Torque

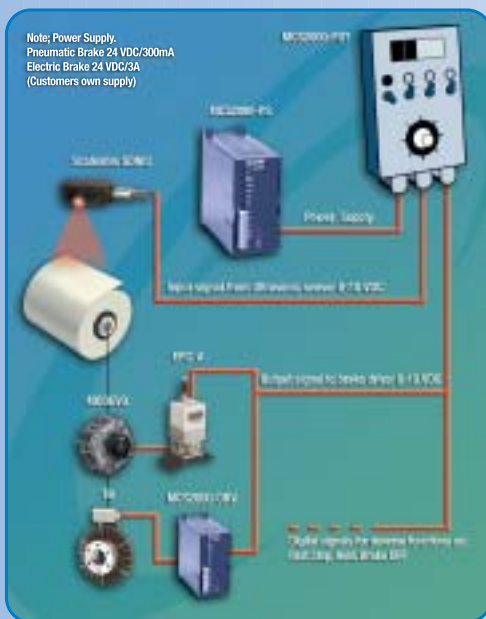
This special edition of All Torque brings news of Wichita's presence at IPEX 2002, the International Packaging Exhibition taking place at the NEC in Birmingham from the 9th to the 17th of April. We hope you'll join us for a

drink and a chat on our stand, 19-223 in Hall 19. This is the Converflex Hall, the first time that a hall at IPEX has been entirely dedicated to converting and flexography, which is a good indicator of the growth in this market!

Also in this issue, we're announcing the launch of some important new products showing for the first time at IPEX, and reviewing some of the already-established designs that Wichita manufactures for the converting industry.

POT available at IPEX!

The MCS2000 tension controller series has been around for a while now in load-cell, dancer arm and ultrasonic guise, but at IPEX we're launching an important addition to the range... the MCS2000-POT.



Low cost
As the name suggests, this is a potentiometer-regulated tension controller, offering a lower-cost entry to the tension controller market. Designed to be simple to set up and use, it's an analogue device that

maintains stable web tension during the steady running phase of converting operations. Working in open-loop configuration, it varies the applied torque in proportion to reel diameter, according to reference settings programmed into the driver. We make a point of

mentioning 'during the steady running phase' because the torque adjustment is not operational during acceleration and deceleration – but that accounts for only around two per cent of the time. For operations requiring constant torque, this is actually an advantage, as open-loop control maintains a more consistent tension than a closed-loop control that is continuously regulating the torque delivery – and it's much easier to set up.

Remote operation

Although the controller doesn't adjust torque during the transitional phases, a preset enhanced tension can be factored in to operate during deceleration, so there are no problems when stopping the converting machine. The brake on the machine can be operated remotely from the MCS2000-POT during loading and unloading of reels, and also via a switch positioned by the brake. Displays on the controller are kept simple too – a moving bar array to show the output signal voltage to the brake driver, and LEDs to indicate the status of the 'Fast Stop', 'Hold' and 'Brake Off' functions.

Easy set-up

The MCS2000-POT receives its input from a scalable ultrasonic sensor, which must first be set up with the required measuring range and choice of positive or negative output slope, achieved with just a few button presses. The output signal is sent to an EPC-V brake driver, which converts the electrical signal to pneumatic pressure for the brake.

The major benefit of the MCS2000-POT is its low cost – when compared with buying and commissioning one of the digital controllers from our MCS2000 range, savings of fifty percent or more can easily be realised.

CATCH No, we're not screening the movie on our stand, but you can catch the '22' version of the MCS2000 making its debut appearance at IPEX. MCS2000-22 is

an upgrade to the MCS2000-11, and like its predecessor can be used with load-cell, dancer arm and ultrasonic sensor inputs. We've added a 'Manual' mode to the controller, and increased the adjustment rate

of the set-points, so less time is needed for set-up. Additionally, the display now shows average rather than constantly-fluctuating values while the machine is running, making it easier to assimilate data at a glance.



Repeatable feedback

No discussion of tension controls would be complete without touching on the role of the sensing devices that provide feedback to the controller in a closed-loop system, giving the data input needed to maintain correct web tension. Three types of sensor are in common use, offering a fine degree of accuracy and good repeatability:



Load cell: this is essentially a strain gauge that directly measures tension in the web according to the force exerted by it on a roller in the system. It is suited to slitters, sheeters and coaters where heavy materials are being converted and where there

is no fast acceleration or deceleration. It offers the advantages of having no moving parts and requiring little space for mounting.



Dancer arm: an indirect method of tension measurement; effectively a position control operated by an arm or lever attached at one end to a dancer roll around which a loop of the web passes, and at the other end to a pivot point sensor. Being able

to absorb tension peaks, it is suited to processes that can experience fast acceleration or deceleration, such as printing.



Ultrasonic sensor: another indirect measurement method, the ultrasonic sensor monitors the diameter change in either the unwind or rewind roll and provides a corresponding change in output to the tension controller.

Time for a brake

NEW LOWER PRICES ON MANY MODELS, FOR DETAILS VISIT US ON STAND 19-223 OR CALL WICHITA SALES

As the focus of our area of the packaging industry is converting, tension control brakes feature prominently on the Wichita stand. ModEvo, Mistral, CAB, CSM, WCM and even TB electromagnetic brakes have all earned their places on show. Here's a brief round-up of their features:

CAB (Copper Alloy Brake)



A water-cooled pneumatic brake, CAB is intended for use in constantly slipping applications such as unwind stands. Available in 1- or 2-disc designs, the brake achieves a high power rating – handling 380-19,600 Nm – thanks to the ability of its copper alloy wear plates to dissipate heat efficiently.

ModEvo



Wichita's newest pneumatic tension control brake is based on just a few modules common to each model in the range, allowing versatility and high precision in set-up and making upgrades easy and economical. ModEvo is available in five sizes, handles torque up to 4400 Nm, and its versatility is rewarding it with considerable success in the converting market.

WCM (Water-Cooled Brake)



The pneumatically-operated WCM provides precise web tension with simple air controls. The cost-effective design features high heat dissipation, using a one-piece steel water jacket that eliminates the possibility of leakage. It is available with standard airtube or multi-torque facility, allowing greater range and accuracy in tension control, and has a torque rating of 1 to 237,600 Nm.

Mistral



Available in three sizes, Mistral is a fan-cooled pneumatic brake capable of handling torques in the range 50 to 1800 Nm. It is especially suited to corrugators and sheeters, where it allows high line speeds despite its compact design.

CSM (Kopper Kool Brake)



For even higher heat transfer than the WCM brake, the pneumatic Kopper-Kool features water cooling and copper alloy wear plates. The design provides an accurately controlled continuous slip action for constant web tensioning and will handle torques from 4 to 375,000 Nm.

TB Brake



A single-disc electromagnetic brake available in 8 sizes, TB needs a 24V DC supply and will handle torques between 0.5 and 300 Nm. Choosing an electromagnetic brake in preference to a pneumatic brake can save on installation costs, and response times are quicker, an advantage when working in closed-loop mode, but pneumatic brakes have a higher heat capacity and torque handling.