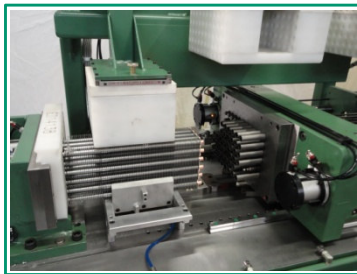
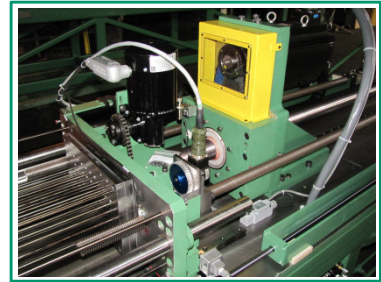


MODEL CHE

Cellular Horizontal Expander



Support Blocks

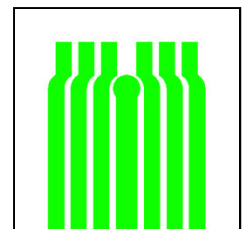


Servo Motor 10 HP



The Tridan **Model CHE Servo-Powered Cellular Horizontal Expander** is designed for the simultaneous expansion and final beelling of all tubes within small to medium-sized plate fin type heat exchanger coils. This PLC-controlled expander provides fully automatic coil length setup adjustment, and it requires very minimal tool and fixture changeover time for varying coil sizes and configurations.

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Tube Expansion

Customer Driven Designs

TRIDAN MODEL CHE

The Tridan **Model CHE Servo-Powered Cellular Horizontal Expander** has been designed to maximize our customers' productivity by using Tridan's coil-building expertise, coupled with the very latest in machine tool technology.

To begin with, this expander uses *no hydraulics*. The expansion stroke is actuated by a very powerful and rugged servo motor, which drives a precision, high-capacity roller screw to cycle the expansion ram. The operation of the machine is very clean and exceptionally quiet compared to conventional hydraulic-powered expanders. Energy consumption is also reduced, since the machine only consumes electricity when it is actually cycling.

Additionally, the use of the servo motor and roller screw, coupled with the PLC machine control system, allows for very precise, fully-automatic setup for varying coil lengths. By simply choosing a coil model from a pre-programmed menu, the machine will automatically cycle to the appropriate length setup configuration.

The **Model CHE** expander provides excellent dimensional control of finished coils, due to its precision design using linear ball bearing guide rail assemblies for all of its primary linear motions.

The setup operations for coil width and height are manual, but are very simple and easy to accomplish. The coil is placed upon one or more removable fixture tables which are located by dowels to incrementally-placed clearance holes in the machine frame. Each fixture table is equipped with a flip-up,

air-powered side guide to accurately locate and fixture the front side of the coil. The back of the coil is fixtured by stackable guide plates which not only locate the coil, *but also support and guide any expander rods that are outside the coil envelope*. This feature reduces or eliminates the need to add or remove pattern tooling in the machine to accommodate varying coil sizes!

The top of the coil is fixtured by durable plastic support blocks, which are automatically lowered onto the coil selectively, as needed for the coil length to be fixtured. Each of these support blocks is drilled with pattern-aligned clearance holes, *again to support and guide any expander rods that are outside the coil envelope*.

The **Model CHE** expander also uses 1-piece, full-pattern nest blocks, again to reduce setup time to a minimum. The nest assembly additionally provides automatic coil ejection at the end of the expansion cycle.

Machine safety is a very important part of the design of the **Model CHE** expander. In addition to physical guarding in appropriate locations, the machine is equipped with laser scanners to protect the perimeter of the machine from intrusion.



Laser Scanner

TECHNICAL SPECIFICATIONS

Standard Expansion Speed:	20 Ft / Min
Standard Retraction Speed:	30 Ft / Min
Servo Motor Rated Power:	10 hp (7.5 Kw)
Roller Screw Dia.	2.36" (60mm)
Maximum Number Tubes:	60
Ram Rated Force:	27,000 lbs (120 Kn)
Air Consumption:	1 to 2 SCFM

