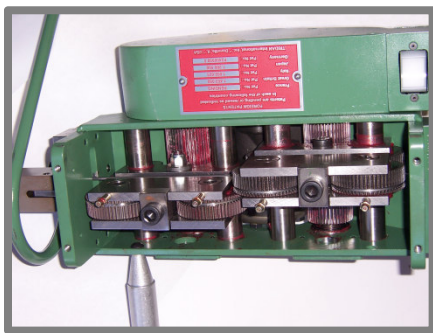
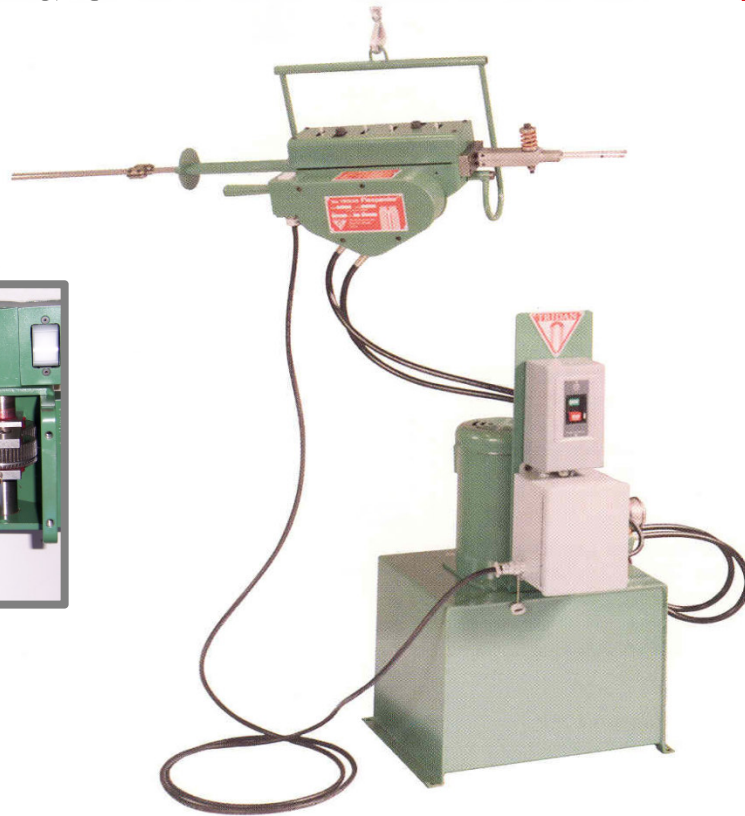


# MODEL FE-5

## Flexpander



EXPANDER ROD  
DRIVING MECHANISM

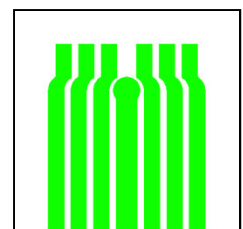


The Model **FE Flexpander** is a completely unique Tridan development. The Flexpander is a Semi-Portable Mechanical Tube Expander for heat transfer coils. The hydraulically powered Flexpander can expand two (2) tubes per cycle which allows it to expand coils constructed with Conventional U-bends or straight tube and return bend construction.

The FE is statically balanced about its own horizontal operating centerline. This allows rotation of the Flexpander to accommodate diagonally, horizontally, or vertically oriented hairpin tubes.

The versatility of the Flexpander makes it the ideal tool for use by any size coil producer. The model FE can be used equally well for volume production, in a model shop or for coil repair applications.

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*Customer Driven Designs*

**Tube Expansion**

# TRIDAN MODEL FE-5

The TRIDAN Model FE-5 FLEXPANDER is a hydraulically powered semi-portable mechanical tube expander designed for the expansion of heat transfer coils, which use conventional hairpin-or-straight tube and return bend construction. It is designed to expand two(2) tubes per cycle, both hairpins legs or two straight tubes, made of copper or aluminum, and other thin wall materials having outside diameters of 1/4"(6.35mm) and 276"(7.0mm). The maximum finned length expandable is determined by the length of expander rod used.

The Model FE-5 Power Head is a rigidly constructed box-frame-weldment, which contains the twin Rod Drive Gear Cartridges, the Drive Mechanism for these cartridges, the hydraulic Drive Motor, and the operational switch handle. All tooling components used with the FLEXPANDER are mounted to this Power Head.

The twin Rod Drive Gear Cartridges contain four(4) specially designed combination gear-drive rollers, with each cartridge designed to power one expander rod. The gear-drive roller are in pairs, one directly above the other, and run on heavy-duty precision roller bearings. Each cartridge is designed so that the amount of drive pressure, the center-to-center spacing, and lubrication of the bearings is performed externally.

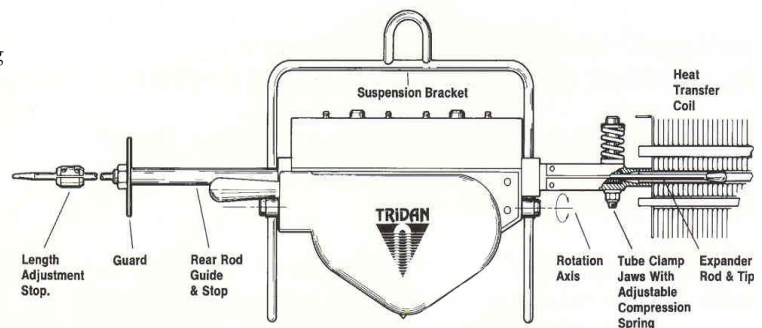
The Drive Mechanism is a direct gear-type with each rod drive gear cartridge being power through an individual adjustable friction clutches. This drive mechanism provides independence between the two expander rods. The power for drive mechanism is provided by a Gerotor type hydraulic motor, which generates 60 Ft-Pounds(81Nm) of Torque at 140 RPM and 900 Psi(63 Kg/Cm2).

Adjacent to the rear operator grip on the Power Head is the operation control switch. It is a three(3) position rocker-type switch with a spring-centered "off" position. This switch controls the forward (power) and the reverse (retraction) stroke of the expander rods, when activated.

The FLEXPANDER is equipped with a cleverly designed suspension system for production use and control of the expander. This suspension system allow ease of axial rotation of the expander so that tube extension pair with either vertical or diagonal orientation may be accommodated as easily a horizontally located tube pairs. Due to the weight of the FLEXPANDER and it tooling components, the use of a tool balancing device is necessary for neutralization of this weight.

## TECHNICAL SPECIFICATIONS

Tube Diameters	.250" through .3125" (6.35 / 7.93mm)
Tube Materials	Copper, Aluminum, and other thin-wall materials
Maximum Tubing Wall Thicknesses (These values are conservative—contact TRIDAN for specific requirements)	.020" (0.51mm) – Copper, ¼ to ½ Hard .030" (0.76mm) – Aluminum, ¼ to ½ Hard
Tube Center-to-Center Dimensions	½" through 3" (19.05 / 76.2mm)
Maximum Finned Length Expandable	Will advise-contact TRIDAN with your Special Requirements
Tubes Per Cycle	Two (2)
Minimum Tube Extension Outside End Sheet Required For Clamping	½" (12.7mm) for All Diameters, except
Maximum Width of Adjacent End Sheet Flange Required For Clamping	1.375" (34.9mm)
Expansion Speed	
- 60 Hz Power Supply	50 to 55 Ft / Min (15.2 / 16.8 Mtr / Min)
-50 Hz Power Supply	40 to 45 Ft / Min (12.6 / 14 Mtr / Min)
Setup and Changeover Times	Complete change -15 Minutes Center-to-Center Change -15 Minutes Outside Diameter Change - 8 Minutes Wall Thickness Change - 3 Minutes



## PHYSICAL REQUIREMENTS

Hydraulic	10 Gal. (38L) of ISO 46 Hydraulic Oil. Tridan does not furnish this oil as a part of the basic machine, since the oil cannot be shipped in the machine. See Spare Parts for Hydraulic Oil.
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