

PHOENIX HYDRAULIC PRESS CONFERENCE

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A manufacturer of electric motors needed a press that would position a shaft into a rotor with high precision. The press had to be configured to eliminate a variety of hard stops in our customer's tooling.

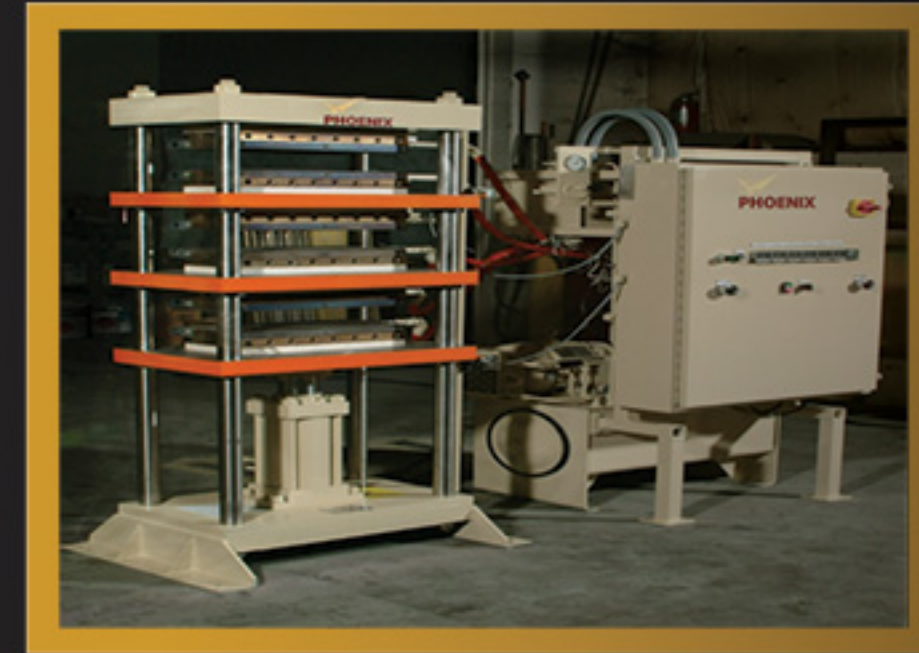
Phoenix's solution was to modify our standard OGF floor mounted press, increasing the daylight to 48" and the stroke to 36". To provide the high specified accuracy, we used a closed loop proportional hydraulic system, which included a Delta motion controller, LVDT, and a Panel View 300 operator interface.

This gave our customer the ability to return the ram to within ± .0015" from selected set points.



25 TON FOUR COLUMN UP-ACTING HYDRAULIC PRESS

The press is a laboratory press used to test polymers and adhesives for an Ohio based company. This press features six electrically heated platens with temperatures ranging to 400° Fahrenheit. Platens are insulated and drilled for air cooling.



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30-TON G-FRAME PRESS WITH PIVOTING BEAM

This unique press is another example of a custom press produced for our customer's processes. This press is a 30 ton G frame press that has a bed beam that pivots to allow clearance between the bottom of the bed beam and frame to allow for part loading. A pneumatic cylinder is used to pivot the bed beam. The bed beam is designed for recessed loading, is attached to the customer's upper tool, and is fully retractable.

The press controller is an Allen Bradley MicroLogix 1000. The operator holds ergonomic switches, the ram advances until a prepositioned limit switch is contacted, then the ram reverses automatically (distance reversal) or when the ram contacts the work and builds to a preset pressure. The ram reverses automatically (pressure reversal). As standard with all Phoenix Presses are ergonomic switches and wiring protected in conduit. Hydraulic lines are also clamped to reduce shock and vibration, thus reducing stresses in the frame.



150 TON FOUR COLUMN PRESS WITH HYDRAULIC SLIDE TABLE

Phoenix built this specialized press with a slide table to measure force and accuracy for a first tier automotive supplier.

Pressure settings are selected electronically through a GE 9030 programmable controller. The operator interface is mounted on a swing arm for the operator.

The press capabilities include a range of force from 1,000 to 300,000 pounds. The press accuracy can be measured between 33,900 pounds to 300,000 pounds. Measurements are taken at low, medium, and high forces.

Additionally, the press measured position reversal accuracy of .050" +/- .015" and force reversal accuracy of +/- 1,000 pounds at low, medium, and high forces.

Mechanically, the press was machined so that the ram platen, wear platen and table surfaces are flat within .002" per foot. The ram wear platen and table surfaces are parallel within .015" under full force load centered within 2" of the centerline.

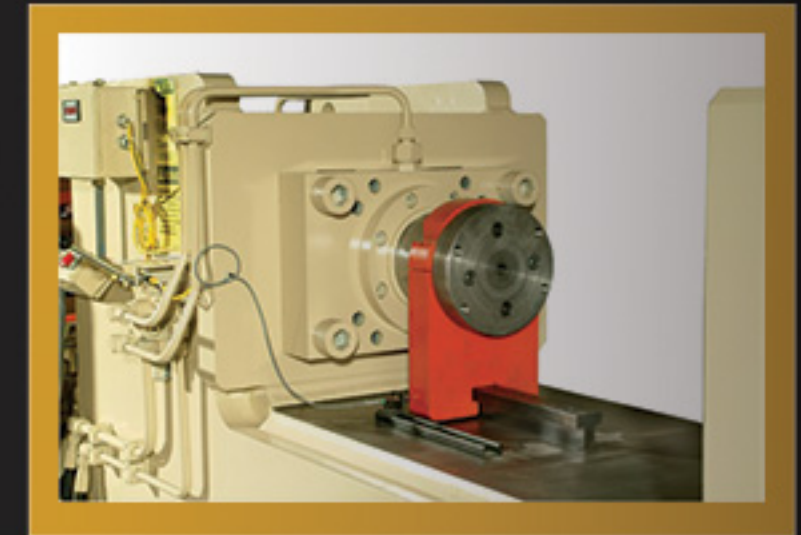


CUSTOM COMPRESSION PRESS

This innovative 150 ton horizontal hydraulic press with tooling was designed for a large manufacturer of off road construction equipment. The purpose of the press is to bring welded tube assemblies back into rounded form before machining. This process is imperative because weld distortion causes the tube to deform and subsequent operation must receive a round tube to control wall thickness.

The process consists of loading a part into the press using a crane. After the part is in place, an operator pushes a button with his left hand while simultaneously moving the control lever downward (two handed control) with the right hand. This enables the operator to control both the ram speed and pressure. The ram advances until it contacts the work and idles at almost zero pressure.

The operator, who has full control of the pressure, utilizes a digital read out to extend the cylinder to a specified locale. Once the correct position is achieved, the operator ends the cycle and the cylinder returns to "home position". An LVDT is used to control the ram with a .002/inch resolution digital readout.



BOLT ON BOLSTER DESCRIPTION

Bolster to Ram, Ram Retracted (daylight): 36"
Bolster Width x Depth (LR x FB): 36" x 24"
Press and power unit will fit within a 15' x 10' rectangle.

FRAME SPECIFICATIONS

Capacity at 2653 PSI: 150 tons
Stroke of Cylinder (adjustable): 12"
Centerline of Ram to Frame (reach): 12"
Centerline of Ram to Floor: 44"



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