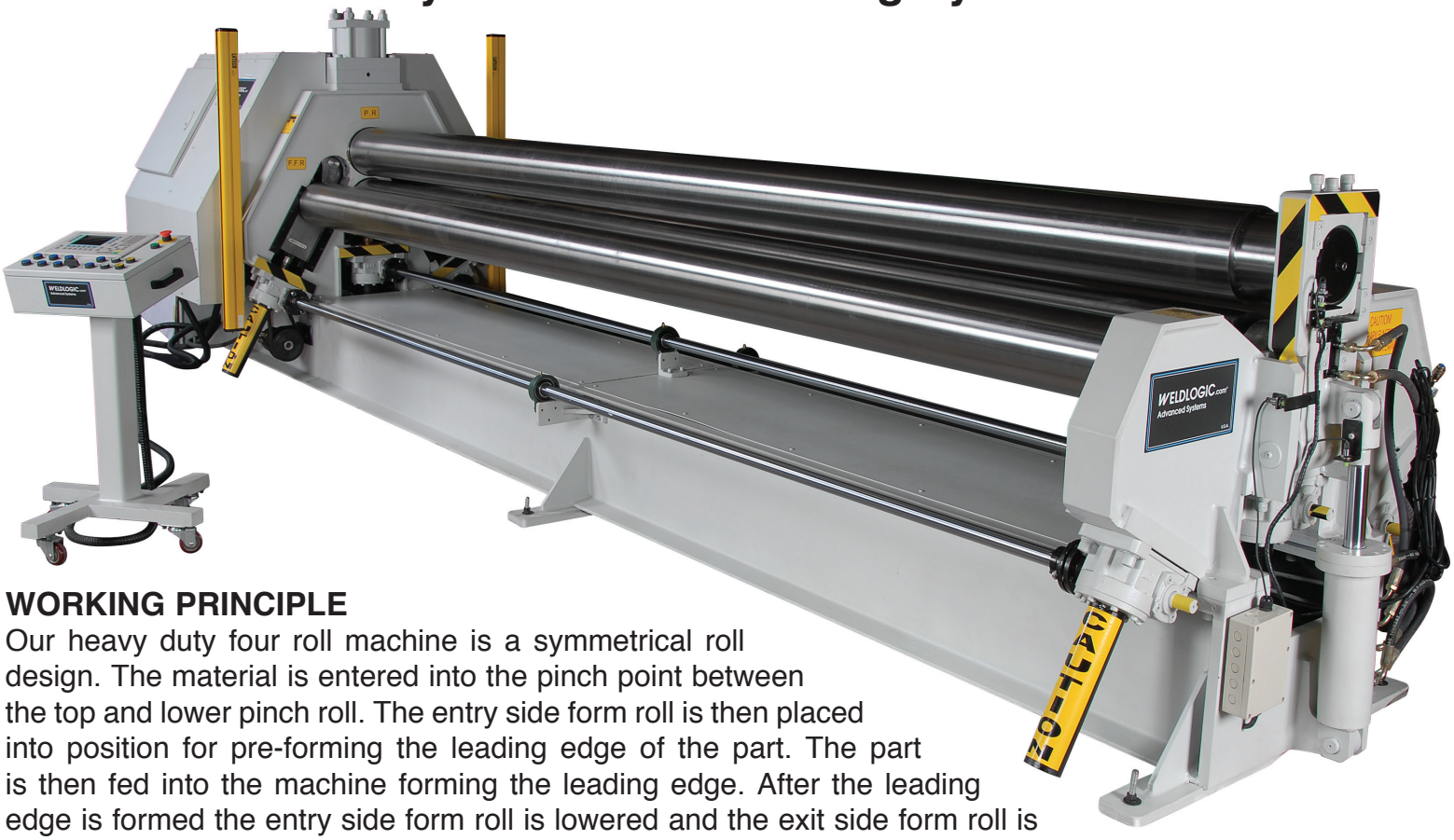
WELDLOGIC INC.
Forming and Welding Solutions

Welding Solutions for Advanced Manufacturing

Heavy Duty 15 Foot CNC Four Roll Hydraulic Plate Forming System



WORKING PRINCIPLE

Our heavy duty four roll machine is a symmetrical roll design. The material is entered into the pinch point between the top and lower pinch roll. The entry side form roll is then placed into position for pre-forming the leading edge of the part. The part is then fed into the machine forming the leading edge. After the leading edge is formed the entry side form roll is lowered and the exit side form roll is placed into position to finish forming the part. The total process is one entry one pass forming.

STANDARD FEATURES INCLUDE:

- Top And Bottom Rolls Driven by Hydraulic Motor / Planetary Transmission
- Hydraulic Roll Positioning System (optional Siemens PLC) on Form Rolls
- Hydraulic Drop End
- Remote Control Pedestal
- Variable Speed Adjustment of Form Rolls
- Spherical Roller Bearings On All Rolls
- Separate hydraulic drive motors
- Electrical Disconnect
- Welded Steel Construction
- 1040/1045 Solid Steel Rolls
- Safety Cut-off Switch
- Enclosed Drive
- Form Roll Position Indicators
- Pinch Force Overload Protection
- Hardened Rollers

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FEATURES OF CNC CONTROL SYSTEM

HARDWARE

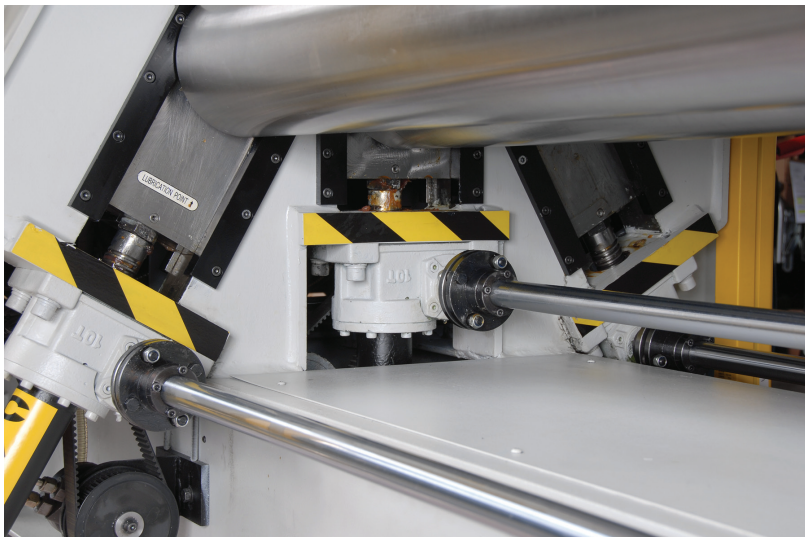
The CNC control system consist of a SIEMENS S7-200 PLC for the machine control and a SIEMENS OP-27 operator interface. The S7-200 PLC features 3 axis closed loop control. The three axis controlled by the plc are material feed, front and rear forming roll positioning. The three axis are closed-loop hydraulic.
A DC hydraulic directional control valve is used on each axis. The position of each axis is sent back to the PLC by optical encoders to ensure accurate positioning. In addition to the three axis the PLC also features digital input and output forcontrolling the hydraulic drop-arm and the manual mode control functions.

PROGRAMMING SOFTWARE

Programming the machine is performed by way of the SIEMENS OP-27 operator interface. The OP-27 features recipe based programs. The programs are generated by sequentially entering position data for front and rear form rolls based upon material feed distance. Up to 100 programs can be stored and edited. Compensation factors can also be entered for various material, yield, strength and thickness.

OPTIONS

- Remote Control Variable Speed Control System
- Cone Rolling Attachment
- Digital Roll Position Indicators
- Induction Hardened and Ground Rolls HRC 50-54
- Rolls Can be Machined For Special Sectional Forming
- Rear and Top Part Supports
- Material in Feed Table
- Rolled Material Ejection Gantry
- Automatic Feeder/Ejector



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