

CNC Bending Machines

Offering rugged dependability and high production of multiple bend parts, Pines CNC benders are capable of fast, repeatable bending of tube and pipe up to 6" O.D. These powerful automatic precision benders offer fast set-up and change-over advantages along with an advanced level of programming to deliver high performance and flexibility in bending operations. The Pines line of CNC bending machines provides tested, trusted, tough, and proven on-the-job performance in manufacturing plants around the world.

Machine Features:

- 1 x Diameter Bending
- Compression & Draw Bending Capability
- Simultaneous Motion of Y & B Axes
- Drop Away Clamp or Dual Spindle
- Open Collet Bending
- Carriage Travel Repeatability (Y Motion) of $\pm .005"$
- Collet Rotation Repeatability (B Motion) of $\pm .10$ deg.
- Bending Arm Rotation Repeatability (C Motion) of $\pm .10$ deg.

Control Features:

- PC Based Touch Screen Control
- On-Screen Self Diagnostics
- Parts Counter Capability
- Bending Program Storage & Recall
- Hitch Feed Program
- Automatic Springback Compensation
- Pressure Die Interference Zone Recapture
- Automatic & Semi-automatic Mode
- Patented Early Mandrel Extract Program
- Oscillating Mandrel Program
- Remote Operator Control Stand
- Production Monitoring
- Pines Vision for Remote Service (optional)
- User Selected Levels of Operation

No Limit On Part Length

Pines unique hitch feed feature makes it possible to bend parts of virtually any length. By eliminating tool/carriage interference on the final bend, the hitch feed program increases machine productivity and reduces material waste.

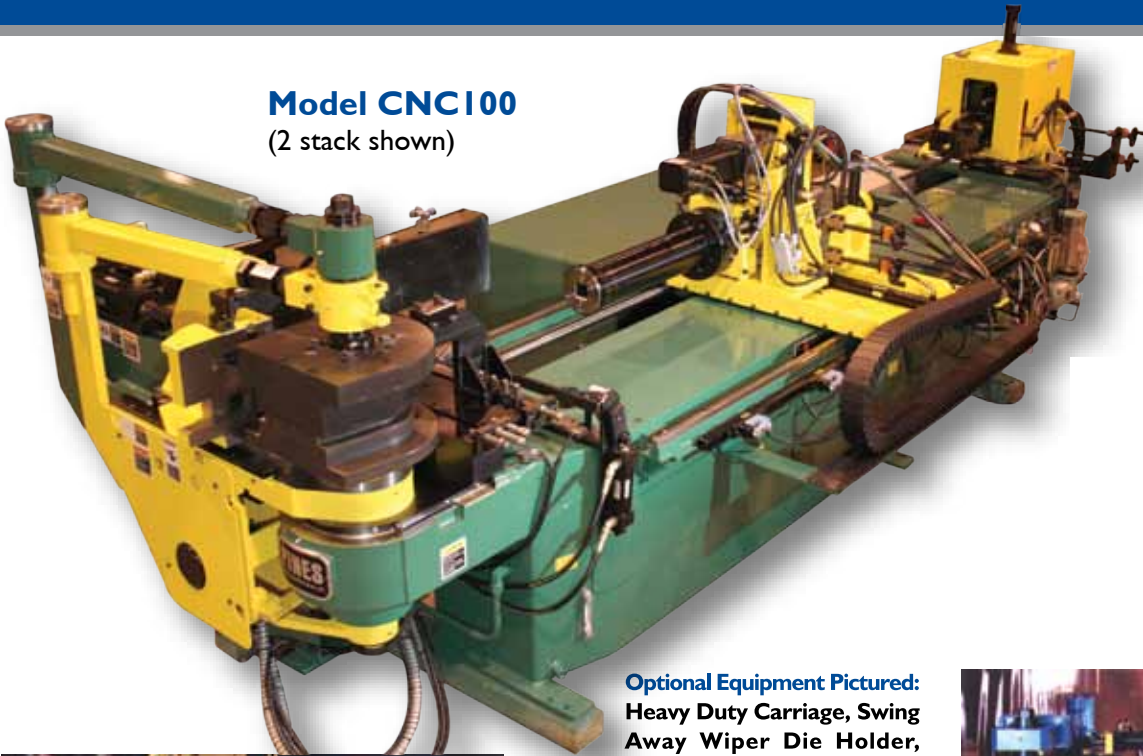
No Need To Modify Tools

Designed to open automatically, the pressure die and patented swing-away wiper die, are pictured options for these CNC benders eliminating the carriage interference that other benders commonly experience.

No Need To Trim Scrap

Parts can be cut to length before bending on these CNC machines. Closed loop electronics with in-process monitoring of part configuration guarantee the repeatability of each part shape during the bending operation.

Model CNC100
(2 stack shown)



Electric features available to facilitate additional controls for setup and bending.

- Quick Change Tools, programmable electric servo motor controlled swing and stationary arm clamping
- Programmable electric servo motor controlled pressure die assist (PDA)
- Programmable electric servo motor controlled mandrel extract and tangent adjust
- Carriage push assist for short grip bending
- New CNC TS Control

Optional Equipment Pictured: Heavy Duty Carriage, Swing Away Wiper Die Holder, Square Tube Pivot Box, Pressure Die Assist, and Overhead Tie Bar.

Note: Carriage shown with collet positioned forward showing how close the carriage can move to the bend die.



Optional Equipment Pictured: Swing Away Wiper Die Holder, Pressure Die Assist, and Overhead Tie Bar. *Note: Carriage shown with collet position forward showing how close the carriage can move to the bend die.*

Available Options:

- | | |
|-----------------------------|---------------------------------|
| Special Heavy Duty Carriage | Square Tube Modification |
| Swing-Away Wiper Die Holder | Base Extensions |
| Overhead Tie Bar | Fan Cooled Heat Exchanger |
| Pressure Die Assist | Off-line PC Programming Package |
| Clockwise Rotation | Direct Acting Tools |

Capacity	CNC040	CNC075	CNC100	CNC150
Steel tubing, Y.P. to 40,000 PSI	1 1/2" x .109"	3" x .109"	4" x .109"	6" x .165"
Stainless steel, Y.P. to 60,000 PSI	1 3/8" x .065"	3" x .065"	4" x .065"	4 1/2" x .083"
Non-ferrous tubing, Y.P. to 25,000 PSI	1 1/2" x .188"	3" x .188"	4" x .187"	6" x .250"
Steel pipe, Schedule 80	1"	2"	2 1/2"	4"
Pump motor horsepower	15	20	40	25
Standard bend radius to centerline	4 1/2"	12"	12"	18"
Standard Max. tube length over mandrel	120"	120"	144"	172"
Standard Carriage Travel	72"	72"	72"	108"
Repeatability	CNC040	CNC075	CNC100	CNC150
Carriage Travel (Y Motion)	±.005"	±.005"	±.01"	±.01"
Collet Rotation (B Motion)	±.10 deg.	±.10 deg.	±.10 deg.	±.10 deg.
Bend Arm Rotation (C Motion)	±.10 deg.	±.10 deg.	±.10 deg.	±.10 deg.
Collet Rotation	360 deg.	360 deg.	360 deg.	360 deg.
Bend Arm Rotation	195 deg.	195 deg.	195 deg.	195 deg.

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