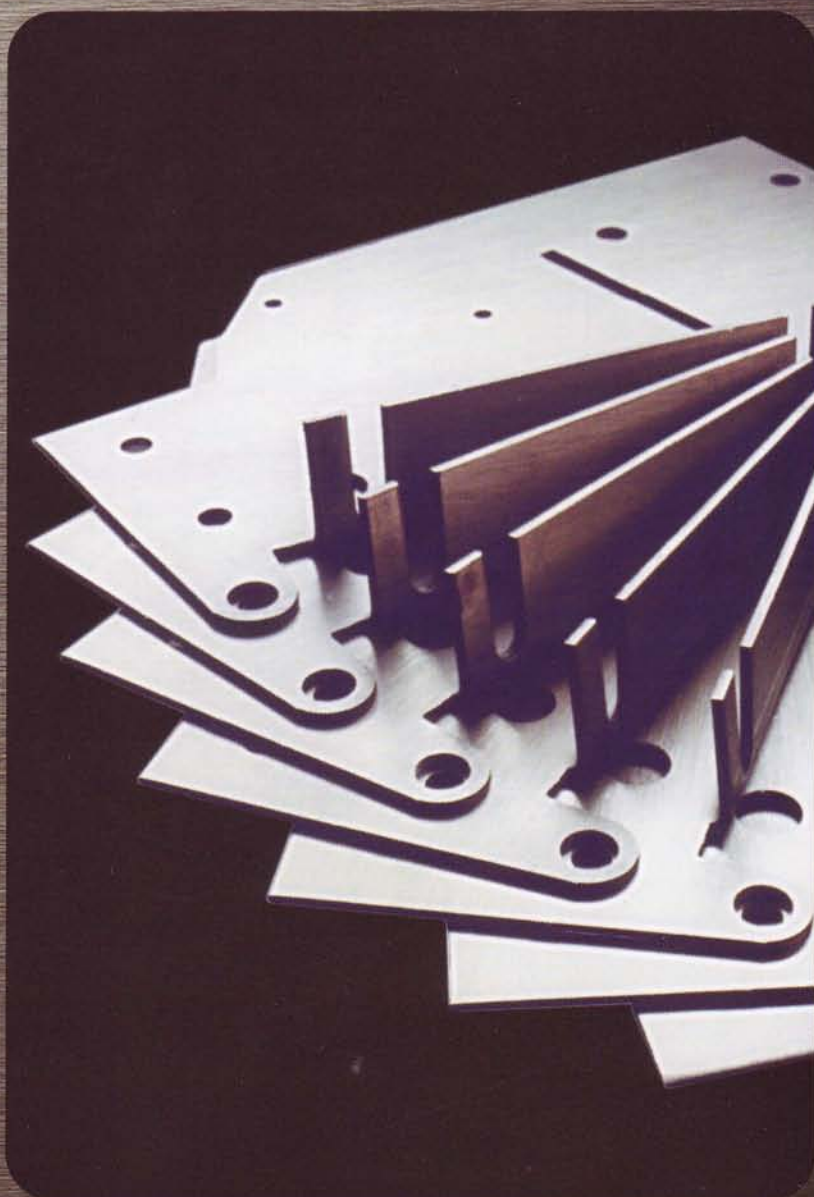


CINCINNATI

# PROFORM

Press Brakes





CINCINNATI PROFORM hydraulic press brakes are designed to provide exceptional value through advanced technology and features unmatched in their class.

## Productivity

Faster cycling means more parts per hour.

## Fast Setup

Rapid first time setup and quick changeover provide more time for forming parts.

## Accuracy

Ram repeatability of  $\pm 0.001"$  ( $\pm 0.025$  mm) along the entire length of the press brake produces close-tolerance bends for higher part quality and lower final assembly costs.

## Versatility

Adjustable stroke length, full tonnage throughout the stroke and multiple forming speeds enable quick and efficient processing of a wide variety of jobs.

## Reliability

Proven design features provide maximum durability and minimum maintenance.

## Safety

CINCINNATI Press Brakes meet applicable sections of the National Consensus Safety Standard, ANSI B11.3.

## Preferential Service

CINCINNATI Preferential Service provides single-source responsibility for start-up, service and parts to help insure optimum performance and trouble-free operation.



◀ Photo of Model 90PF6  
Several optional items  
are shown for illustration  
purposes.



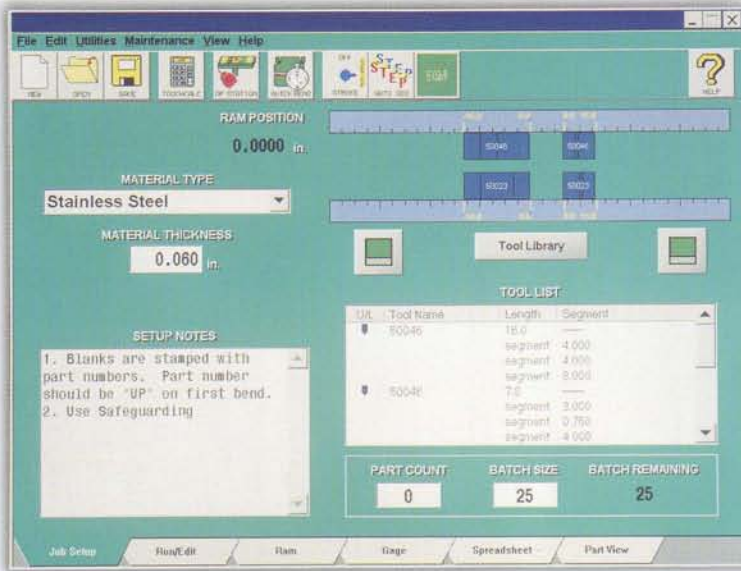
Productivity is realized through the use of an industrial PC control and a Windows® operating system that is simple to learn and operate. The large display and touchscreen operator interface eliminates keypads and key switches while simplifying programming and data entry. Graphics assist the operator during programming and forming by displaying pictures of tools and realistic 3D part views.

Programmable ram speeds and ram opening allows the user to maximize productivity without sacrificing part quality or operator safety. Small parts can be formed with maximum forming speeds while large parts can be formed with slower ram speeds to reduce back bending and simplify part handling.

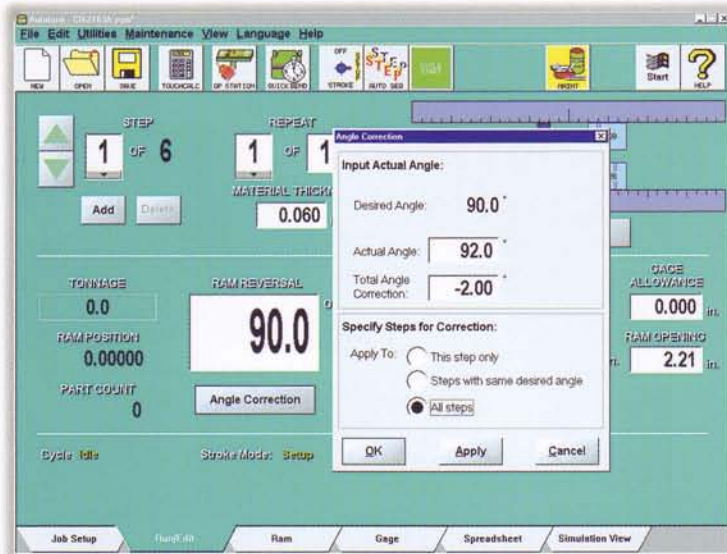
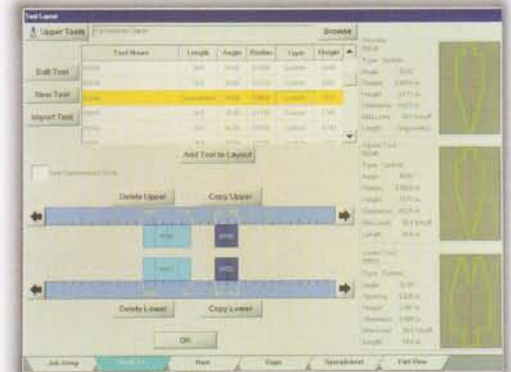
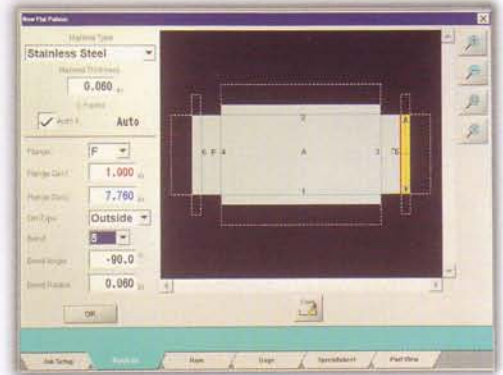


▲ Touchscreen operator interface speeds programming and operation.





The PROFORM delivers fast and repeatable setups through advanced control technology. Repeat jobs are recalled from a large capacity hard drive, floppy drive or network. Each program contains a visual-oriented JOB SETUP page that displays tool names, segment lengths and tool locations. Detailed setup notes are stored to insure important instructions are displayed each time the job is recalled.

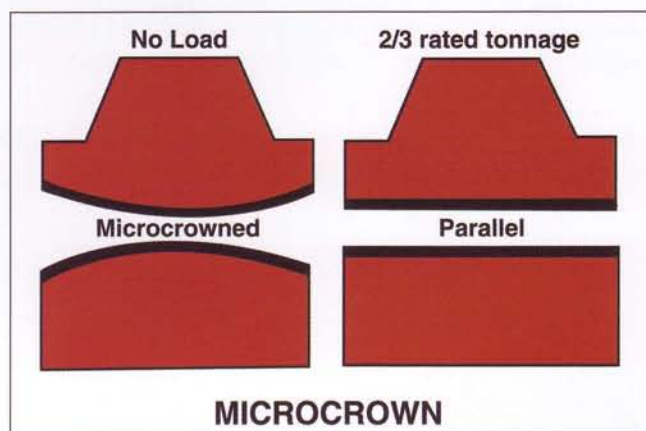


New programs are created through manual data entry or by drawing the part in a cross section or flat view. Tools are selected from a graphical tool library allowing the control to assist the operator with Angle Mode gage allowances calculations.

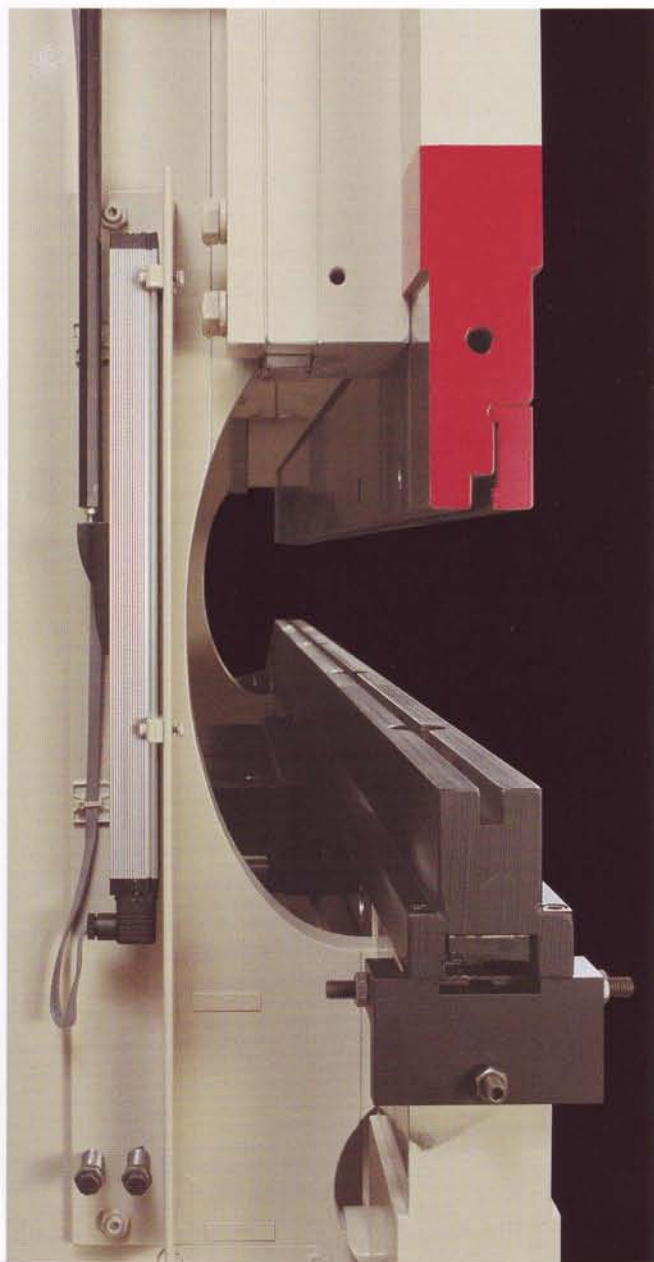


# Accuracy

CINCINNATI's servo hydraulics and PC-based control provide ram repeatability of  $\pm 0.001$ " ( $\pm 0.025$  mm) along the entire length of the press brake for exceptional part quality. Automatic leveling control, using absolute linear transducers measuring to  $0.0004$ " ( $0.01$  mm), maintains precise parallelism between the bed and ram. Every machine is thoroughly inspected, with ram repeatability guaranteed to a  $\pm 3$  sigma tolerance. An accuracy printout verifies ram repeatability and parallelism and becomes part of the machine's permanent engineering record.



Models 90 through 350 feature Microcrown, a carefully engineered crown machined into the bed to reduce die shimming. Microcrown is designed to produce a parallel bed and ram at 2/3 full tonnage. Other press brakes, with a bed and ram that are machined parallel, deflect out-of-parallel under load. CINCINNATI microcrowning minimizes the time-consuming die shimming often required to correct for machine deflection.



*The PROFORM produces accurate, consistent parts. ▲*  
*Optional digital protractor verifies bend angle.*

◀ *Absolute linear transducers mounted on both ends of the machine eliminate leveling tapes and maintain ram repeatability to within  $\pm 0.001$ ". They are referenced below the neutral axis of the throat to avoid ram reversal errors caused by side housing deflection.*



CINCINNATI offers a variety of standard and optional features designed to provide maximum versatility for the fabricator.

A variety of tool holders, filler blocks and ram noses are available to accommodate the major tooling systems available today.

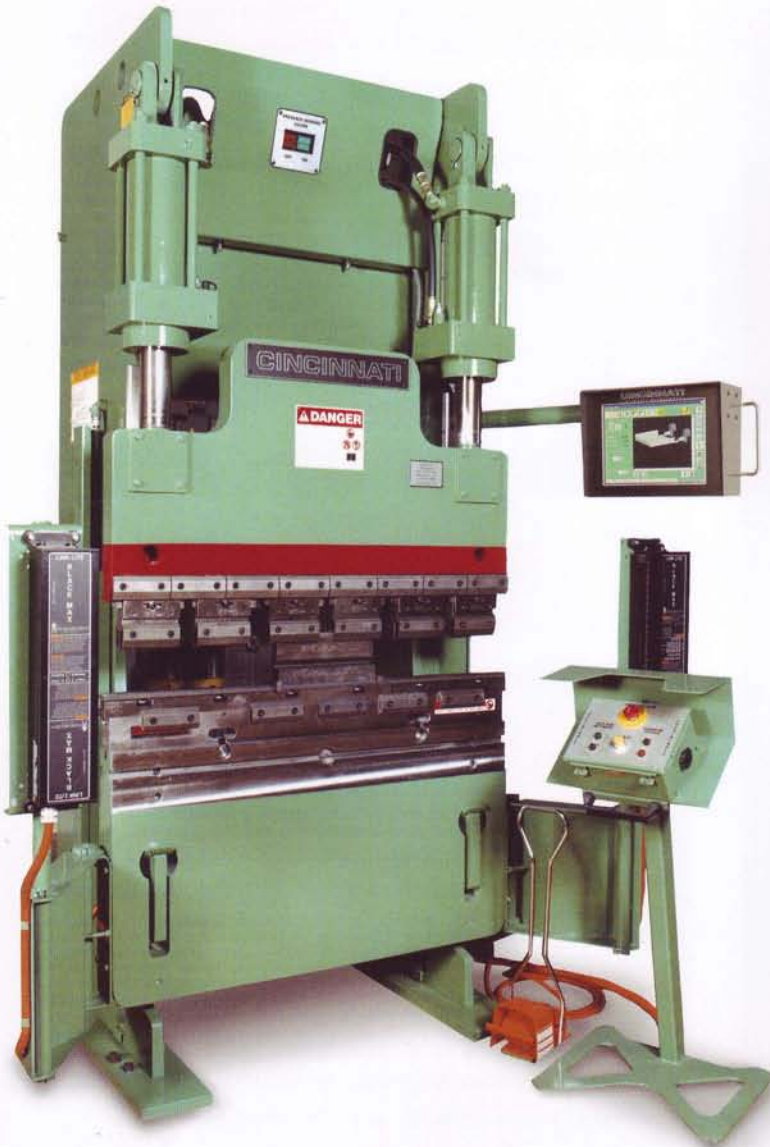


▲ **Compatible with U.S. or European style tooling.**

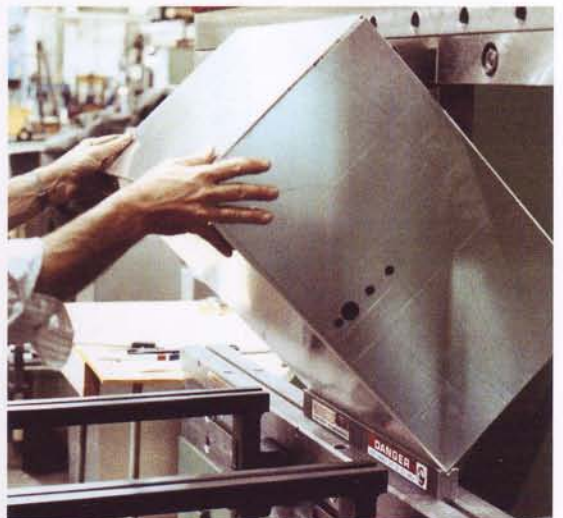
A European style bolt-on ram nose can be provided in lieu of the standard bolt-on ram nose at no additional cost on 60 ton models. A European style or American style bolt-on ram nose can be provided as an option on 90 and 135 ton models.

If you require the versatility to form deep flanges or accommodate special tooling, CINCINNATI can supply optional structural modifications such as increased stroke, throat, closed height, machining for angle brackets and die clamp bolts on 6" centers.

For attaching material support arms and gages, the PROFORM comes standard with machined dovetail slots in the bed.



Model 60PF2 shown with ▲  
European ram nose and  
tooling, increased stroke and  
presence sensing device.



▲ **Increased stroke and closed-height permits deep box forming.**



# Reliability

PROFORM press brakes prove their reliability with an unmatched **five-year** parts and one year labor warranty. The control and optional backgauge carry a one-year warranty.

Housings, bed and ram are designed to minimize deflection and stress in critical areas. The interlocked construction has been proven to be exceptionally rigid in thousands of installations. The result is unsurpassed durability and minimal maintenance requirements.

CINCINNATI's patented Variable Volume Load Sensing (VVLS), high-efficiency hydraulic system operates at lower pressures and with less heat for reduced maintenance and extended service life. This remarkable system provides lower energy consumption and quieter operation.

Hardened piston rods guard against scratches that result in oil leaks and reduced seal life. Clevis-mounted cylinders and centerline loading

confine operating stresses within the main housings to eliminate cylinder and piston binding. Excessive packing wear and distorting side thrusts associated with back mounted cylinders are non-existent.

A manifold hydraulic system with few connections minimizes troubleshooting time and simplifies valve replacement. A high-capacity 3-micron oil filter extends the life of all hydraulic components. The filter is electronically monitored to inform the operator when a change is required.

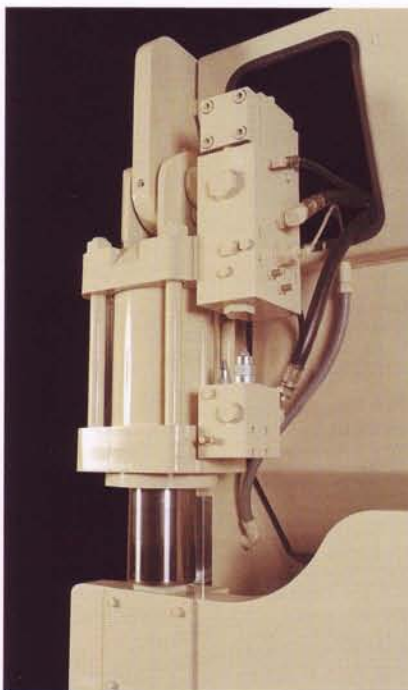
Each printed circuit board must pass critical quality control checks. The electrical system is built to NEC and NFPA-79 industry standards to ensure high quality and safety.

Standard on the 60 ton models is a unique bolt-on, hardened ram nose design that reduces the risk of damage due to sinking segmented tooling.

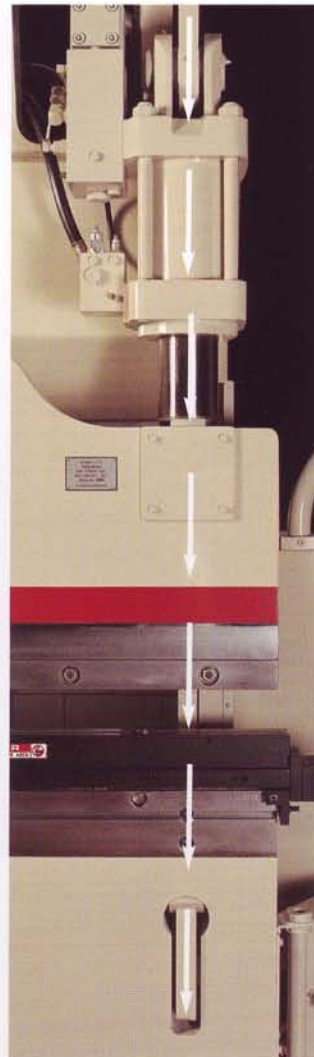
*The patented VVLS hydraulic system is energy efficient and lowers maintenance cost. Conveniently located test ports permit maintenance personnel to quickly verify system pressures.*



*Hardened piston rods with precision guiding eliminate cylinder oil leaks.*



*Clevis mounted cylinders and centerline loading confines operating stress within the main housings to eliminate cylinder misalignment.*



*Rigid interlocked construction contributes to rugged reliability.*





**Standard ram mounted palm button operator station ▲**  
on 90 through 350 ton models.



**Optional pedestal mounted palm button operator station. ▲**  
This feature is standard on 60 ton models.



**Operators can position the gage fingers without having to walk ▲**  
behind the machine or risk injury by reaching through the dies.

The palm button operator station incorporates lights indicating the direction of the next ram movement.

An emergency stop button is located in the center of the operator station for fast access in emergency situations. An additional palm button station and additional footswitch are available for jobs requiring two operators.

A gage finger positioning tool is included with optional CINCINNATI backgages so operators do not have to walk behind the machine or risk injury by reaching through the dies to adjust the gage fingers.

CINCINNATI Press Brakes are designed to meet the most recent national consensus safety standards which are applicable to power press brakes. Each machine is furnished with two Operation, Safety and Maintenance manuals, safeguarding information and a copy of current ANSI B11.3 safety standards. Warning signs are attached to the machine and are clearly visible as a constant safety reminder.

A point-of-operation safeguarding bulletin is provided with each machine. Additional safeguarding assistance is available.



**ANSI compliance tag is attached to each machine prior to shipment.**



# Preferential Service

Each machine is backed by the CINCINNATI Preferential Service Program, the most comprehensive service policy in the industry. This program provides single-source responsibility for start-up, service and parts to help assure optimum performance and trouble-free operation. Field-based Factory Service Representatives are conveniently located throughout the U.S.A. and Canada within hours of your plant.

A certified foundation plan and complete information regarding lifting, leveling and equipment preparation are provided to you before machine shipment, so that all preparations can be completed before your machine arrives.

A CINCINNATI Service Representative will inspect, level and test the machine in all modes of operation. He will also supervise machine start-up and provide instructions in safe, proper machine operation and preventive maintenance.



**A CINCINNATI Service Representative will inspect, level and test the machine in all modes of operation. He will also supervise machine start-up and provide instructions in safe, proper machine operation and preventive maintenance.**

Stocked replacement parts are shipped within 24 hours to minimize downtime. For added customer convenience, Parts Department representatives receive phone calls on weekdays between 8:00 am and 8:00 pm Eastern time.

The CINCINNATI Rapid Response program assures that all calls to our Parts and Technical Support Departments—even those placed after hours and on weekends or holidays—receive prompt attention with same day or next morning response.

A video program is available covering "Basic Press Brake Operator Fundamentals" to help promote a safer and more productive workplace. Additional training programs, conducted at the customer's plant or Cincinnati Incorporated, can be tailored to further develop operator skills and instruct personnel on proper maintenance procedures.



**Parts department representatives can be reached on weekdays between 8:00 am and 8:00 pm Eastern time.**



## Structure Options

The PROFORM can be manufactured with increased stroke, increased closed height, increased throat, bed and ram extensions, and permanently wide bed and ram to meet specific application requirements.

## Presence Sensing

Interface provisions for presence sensing device include a pedestal mounted, palm button operator station (standard on 60 ton models) and a guard on/off indication light. A complete factory-mounted presence sensing device is available.

## Fluid Monitoring

Sensors detect insufficient or overheated hydraulic fluid and shut down the machine to prevent damage (standard on 60 ton models).

## Heater Units

A thermostatically controlled oil heater unit protects the pump for machines installed in a 45°F (8°C) or colder environment.

## Heat Exchanger

An air-cooled heat exchanger provides auxiliary cooling for ambient temperatures over 100°F (38°C). It is also recommended for continuous ram cycle rates greater than 20 strokes per minute (standard on 60 ton models).

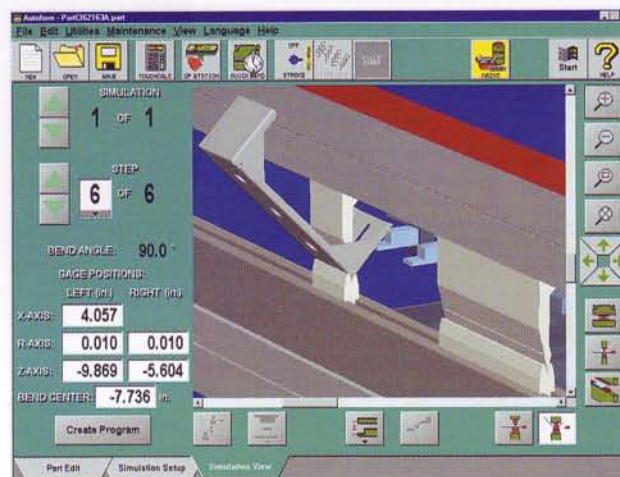
## Hardened Wear Strip

A hardened wear strip attached to the backgage bar is available. Standard gage fingers are still required. Without the fingers, the gage bar will position within 4" of the die centerline. If it is desired to gage directly against the wear strip, a spacer assembly can be mounted behind the gage bar allowing the gage bar to move to the centerline.

## Additional Options

- Die clamp bolts on 6" centers
- Additional footswitch
- Programmable footswitches
- Additional palm button operator station
- Programmable outputs
- Area work lights
- Additional gage fingers and assemblies
- Paint color
- Die slot in ram for double hooked tongue
- Bed Adapters
- Angle Brackets
- Batch Program Software

## CINCINNATI Bend Simulation Module



CINCINNATI Bend Simulation Module installed on an offline computer, provides the ability to input CAD files, simulate forming, identify part interference with tooling and machine members. After accepting the forming simulation, the software automatically creates a complete part program with optimized ram and gage settings. Programs created offline are transferred to the PROFORM control via Ethernet or floppy disk.

## Power Clamp

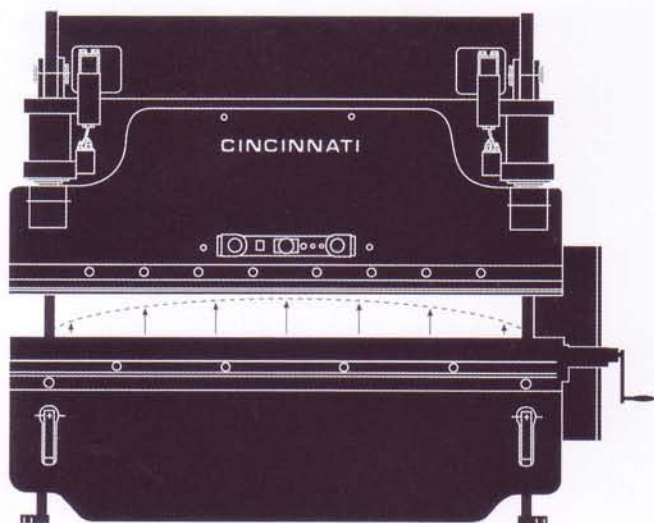
Manually loosening and tightening die clamp bolts and set screws adds a considerable amount of setup time. Power clamp, available on the ram and bed, uses hydraulic power to open the die clamps without the need for hand tools. When Power Clamp is deactivated after installing the dies, powerful spring washers close the die clamps, securely holding the dies in place. Full clamping force is maintained even in the event of a power failure. Power Clamp is designed for standard die tongue widths of nominal 1/2" thickness.





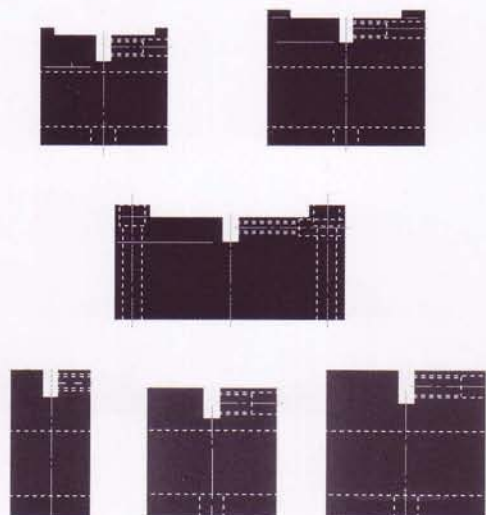
## Crownable Filler Block

A crownable filler block compensates for bed and ram deflection which can produce parts that are under-bent at the center. Rotating the handle mounted at the right hand side of the filler block adjusts the crown to maintain the lower die parallel to the upper die during forming. This speeds setup by eliminating die shimming. (Available on 90 through 350 ton models)



## Filler Blocks

A wide selection of filler blocks is available to adapt PROFORM to a broad range of tooling and forming requirements. The U.S./Euro style filler block accepts both American and European style tooling. Adapters for European style tooling are available on all models.



## Tooling

CINCINNATI press brake tooling is made from high carbon die steel and is heat-treated throughout before machining for exceptional wear resistance. Tooling can be remachined without the normal requirement for additional heat treatment.

Stocked Dies are available in over 129 different types including air bend, acute angle, bottoming, gooseneck, four-way and flattening in lengths from 25" to 194".

Standard Dies are available for custom tailoring to specific applications. They are machined to your specifications from standard bar sizes.

To reduce setup time, Quickset dies are precision machined to provide close-tolerance alignment so that the operator does not have to align the lower die. Quickset dies are available in standard or custom shapes. Precision ground American and European tooling is also available through CINCINNATI.

## Auto Crown®

Auto Crown® is an automatic crowning device that does not require operator input. A hydraulic cylinder produces an upward force on the bed proportional to the forming load. When air bending between the housings, Auto Crown® can help produce angles within  $\pm 1/2^\circ$  variation along the bend line.





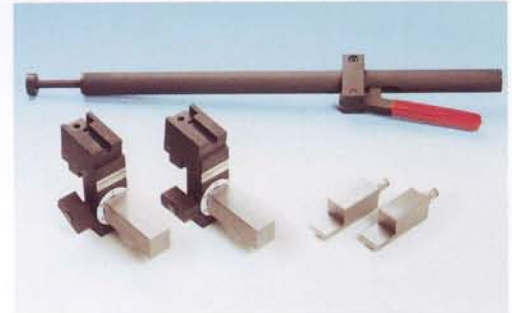
A CINCINNATI backgage system, built to the same superior CINCINNATI standards of quality, allows the machine to operate at peak efficiency.

All CINCINNATI backgages are designed to reduce setup and handling time in processing a wide variety of jobs. The operator can program the backgage positions necessary to form multiple flanges in one handling. Gage allowance, clamp position, retract distance, and gage pause can also be programmed.

A closed-loop servo drive system provides fast, precise gage positions. Standard equipment includes a full length bar, two adjustable gage holders with two sets of fingers and one positioning tool. All CINCINNATI backgages are covered by a **one-year** parts and labor warranty.



**CNC SX Backgage with ▲ Programmable "R" Axis — 60 ton models only**  
(Safety cable removed for illustration only).



**Two adjustable gage holders with two ▲ sets of fingers and one positioning tool are furnished with each CINCINNATI backgage system.**



**CNC Backgage with Programmable "R" Axis ▲**  
(Safety cable removed for illustration only).

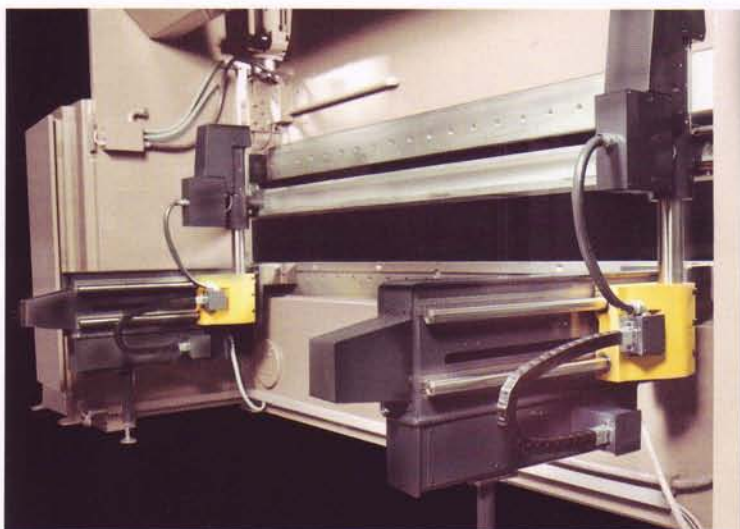


# Unsurpassed Accuracy & Productivity

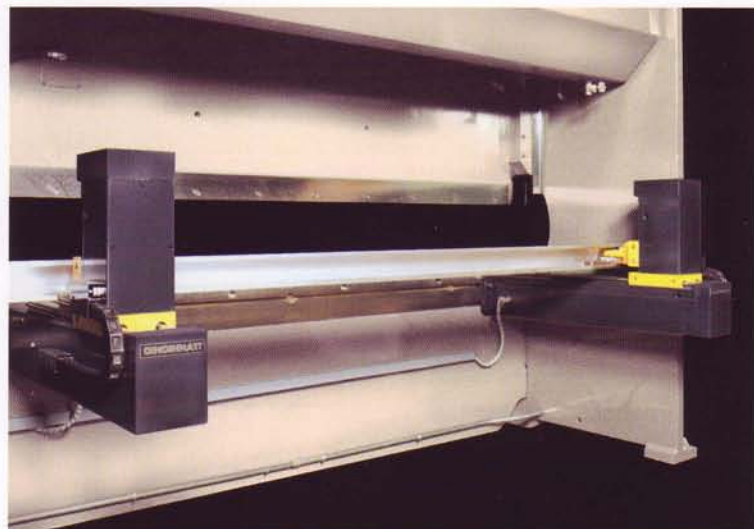
## PF BACKGAGES

|  | CNC SX<br>60 Ton Models Only | CNC         | CNC Heavy Duty              | CNC Plate                   | CNC 4X                      |
|--|------------------------------|-------------|-----------------------------|-----------------------------|-----------------------------|
| Positioning Speed                      | 1200 ipm                     | 1200 ipm    | 1200 ipm                    | 400 ipm                     | 1200 ipm (X-axis)           |
| Positioning Range                      | 24"                          | 24"         | 24"                         | 24"                         | 24" (X-axis)                |
| Optional Positioning Range             | -                            | 40"         | 40"                         | 40", 64", 80"*              | 40"                         |
| Positioning Accuracy                   | ±.001"                       | ±.001"      | ±.001"                      | ±.003"                      | ±.001" (X-axis)             |
| Positioning Repeatability              | ±.001"                       | ±.001"      | ±.001"                      | ±.001"                      | ±.001" (X-axis)             |
| Holding Force At Center Of Gage Bar    | 300 lbs                      | 300 lbs     | 600 lbs                     | 900 lbs                     | 300 lbs                     |
| Manual Vertical Adjustment Range       | 8"                           | 8"          | 8"                          | -                           | -                           |
| Programmable Vertical Adjustment Range | 8" optional                  | 8" optional | 8" optional<br>12" optional | 8" standard<br>12" optional | 8" standard<br>12" optional |

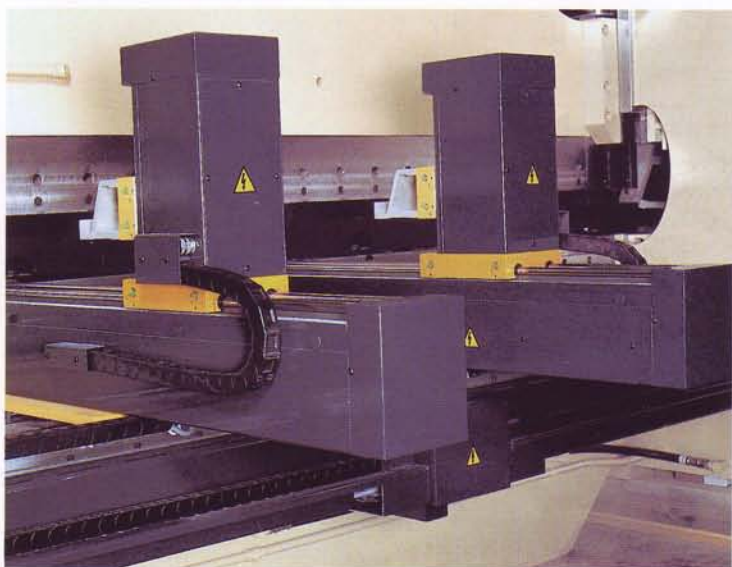
\* 64", 80" ranges reduce positioning speed to 200 ipm.



**CNC Plate Backgage** ▲  
(Safety cable removed for illustration only).



**CNC Heavy Duty Backgage with Programmable "R" Axis** ▲  
(Safety cable removed for illustration only).



**CNC 4X Backgage** ▲



| MODEL  | CLEAR DISTANCE<br>BETWEEN HOUSINGS |            |     | TOTAL OVERALL DIE SURFACE<br>TONNAGE CAPACITY (1) | THICKNESS X LENGTH  | AIR BENDING CAPACITY<br>FOR MILD STEEL (2) |                        |        | BED TO RAM<br>HEIGHT |   |               | APPROXIMATE RAM SPEEDS<br>INCHES PER MINUTE (3) |                 |                                   | STANDARD BED     |              |                           | DOMESTIC SHIPPING<br>WEIGHT LBS (APPROX) (4) |
|--------|------------------------------------|------------|-----|---|---|--|------------------------|--------|----------------------|---|---------------|---|-----------------|-----------------------------------|------------------|--------------|---------------------------|--|
|        |                                    |            |     |   |   | OVER VEE DIE<br>OPENING                    | STANDARD STROKE LENGTH | CLOSED | OPEN                 | THROAT CLEARANCE FROM<br>DIE CENTERLINE | HIGH APPROACH | VARIABLE FORMING<br>LOW / MED / HIGH            | VARIABLE RETURN | DISTANCE FROM FLOOR<br>TO BED TOP | WIDTH AT BED TOP | PIT REQUIRED | STANDARD MOTOR HORSEPOWER |  |
|        |                                    |            |     |   |   |  |                        |        |                      |   |               |   |                 |                                   |                  |              |                           |  |
| 60 PF  | -2                                 | 3' 1"      | 4'  | 60  | 10 GAUGE x 6'<br>1/4" PLATE x 3'4"                          | 1-1/8"<br>2"                               | 8"                     | 9"     | 17"                  | 10"                                     | 180           | 1 to 70   | 1 to 195        | 34"                               | 3-1/2"           | NO           | 7-1/2                     | 6830<br>8630                                 |
|        | -4                                 | 4' 6"      | 6'  |   |   |  |                        |        |                      |   |               |   |                 |                                   |                  | NO           |                           |  |
| 90 PF  | -6                                 | 6' 6-1/2"  | 8'  | 90  | 12 GAUGE x 12'<br>1/4" PLATE x 5'                           | 7/8"<br>2"                                 | 8"                     | 7"     | 15"                  | 7"                                      | 260           | 1 to 80   | 1 to 280        | 34"                               | 3-1/2"           | NO           | 15                        | 13,300<br>15,800<br>18,300                   |
|        | -8                                 | 8' 6-1/2"  | 10' |   |   |  |                        |        |                      |   |               |   |                 |                                   |                  | NO           |                           |  |
|        | -10                                | 10' 6-1/2" | 12' |   |   |  |                        |        |                      |   |               |   |                 |                                   |                  | NO           |                           |  |
| 135 PF | -6                                 | 6' 6-1/4"  | 8'  | 135   | 10 GAUGE x 13'6"<br>1/4" PLATE x 7'6"                       | 1-1/8"<br>2"                               | 8"                     | 7"     | 15"                  | 7"                                      | 200           | 1 to 55   | 1 to 185        | 34"                               | 3-1/2"           | NO           | 15                        | 14,800<br>17,000<br>19,800<br>23,800         |
|        | -8                                 | 8' 6-1/4"  | 10' |   |   |  |                        |        |                      |   |               |   |                 |                                   | 3-1/2"           | NO           |                           |  |
|        | -10                                | 10' 6-1/4" | 12' |   |   |  |                        |        |                      |   |               |   |                 |                                   | 4-1/2"           | NO           |                           |  |
|        | -12                                | 12' 6-1/4" | 14' |   |   |  |                        |        |                      |   |               |   |                 |                                   | 4-1/2"           | YES          |                           |  |
| 175 PF | -6                                 | 6' 6-3/4"  | 8'  | 175   | 3/16" SHEET x 13'4"<br>3/8" PLATE x 6'3"                    | 1-1/2"<br>3"                               | 10"                    | 7"     | 17"                  | 8"                                      | 180           | 1 to 40   | 1 to 200        | 34"                               | 4-1/2"           | NO           | 15                        | 18,500<br>21,000<br>24,500<br>29,000         |
|        | -8                                 | 8' 6-3/4"  | 10' |   |   |  |                        |        |                      |   |               |   |                 |                                   | NO               |              |                           |  |
|        | -10                                | 10' 6-3/4" | 12' |   |   |  |                        |        |                      |   |               |   |                 |                                   | NO               |              |                           |  |
|        | -12                                | 12' 6-3/4" | 14' |   |   |  |                        |        |                      |   |               |   |                 |                                   | YES              |              |                           |  |
| 230 PF | -6                                 | 6' 6-1/2"  | 8'  | 230   | 1/4" PLATE x 12'9"<br>3/8" PLATE x 8'3"<br>1/2" PLATE x 8'  | 2"<br>3"<br>5"                             | 10"                    | 7"     | 17"                  | 8"                                      | 155           | 1 to 35   | 1 to 175        | 36"                               | 5-1/2"           | NO           | 15                        | 22,500<br>25,300<br>29,200<br>33,500         |
|        | -8                                 | 8' 6-1/2"  | 10' |   |   |  |                        |        |                      |   |               |   |                 |                                   | NO               |              |                           |  |
|        | -10                                | 10' 6-1/2" | 12' |   |   |  |                        |        |                      |   |               |   |                 |                                   | NO               |              |                           |  |
|        | -12                                | 12' 6-1/2" | 14' |   |   |  |                        |        |                      |   |               |   |                 |                                   | YES              |              |                           |  |
| 350 PF | -8                                 | 8' 6"      | 10' | 350   | 3/8" PLATE x 12'5"<br>1/2" PLATE x 12'<br>3/4" PLATE x 8'6" | 3"<br>5"<br>8"                             | 10"                    | 8"     | 18"                  | 10"                                     | 105           | 1 to 20   | 1 to 95         | 36"                               | 5-1/2"           | YES          | 15                        | 34,300<br>38,600<br>44,000                   |
|        | -10                                | 10' 6"     | 12' |   |   |  |                        |        |                      |   |               |   |                 |                                   | YES              |              |                           |  |
|        | -12                                | 12' 6"     | 14' |   |   |  |                        |        |                      |   |               |   |                 |                                   | YES              |              |                           |  |

| METRIC<br><br>MODEL |     | CLEAR DISTANCE<br>BETWEEN HOUSINGS (mm) |       | TOTAL OVERALL DIE SURFACE<br>(mm) | TONNAGE CAPACITY (kN) (1) | THICKNESS X LENGTH<br>(mm x mm) | AIR BENDING CAPACITY<br>FOR MILD STEEL (2) |                                |        | BED TO RAM<br>HEIGHT |  |               | APPROXIMATE RAM SPEEDS<br>MILLIMETERS PER SECOND |        |  | STANDARD BED          |              |                     | DOMESTIC SHIPPING<br>WEIGHT kg (APPROX) (4) |
|---------------------|-----|---|-------|-----------------------------------|---------------------------|---------------------------------|--|--------------------------------|--------|----------------------|--|---------------|--|--------|--|-----------------------|--------------|---------------------|---|
|                     |     |   |       |                                   |                           |                                 | OVER VEE DIE<br>OPENING (mm)               | STANDARD STROKE<br>LENGTH (mm) | CLOSED | OPEN                 | THROAT CLEARANCE FROM<br>DIE CENTERLINE (mm) | HIGH APPROACH | FORMING<br>LOW / MED / HIGH                      | RETURN | DISTANCE FROM FLOOR<br>TO BED TOP (mm) | WIDTH AT BED TOP (mm) | PIT REQUIRED | STANDARD MOTOR (kW) |   |
| 60 PF               | -2  | 940                                     | 1,220 | 540                               | 3 x 2,440                 | 25                              |  |                                |        |                      |  |               |  |        |  |                       |              | 3,100               |   |
|                     | -4  | 1,370                                   | 1,830 |                                   | 6 x 1,010                 | 50                              | 200  | 230                            | 430    | 250                  | 76   | 1 to 30       | 1 to 83  | 865    | 90                                     | NO<br>NO              | 5.3          | 3,900               |   |
| 90 PF               | -6  | 1,900                                   | 2,440 | 800                               | 3 x 3,500                 | 24                              |  |                                |        |                      |  |               |  |        |  |                       |              | 6,000               |   |
|                     | -8  | 2,600                                   | 3,050 |                                   | 4 x 2,770                 | 32                              | 200  | 180                            | 380    | 175                  | 110  | 1 to 34       | 1 to 119   | 865    | 90                                     | NO<br>NO              | 11.2         | 7,200               |   |
|                     | -10 | 3,210                                   | 3,660 |                                   | 5 x 2,340                 | 40                              |  |                                |        |                      |  |               |  |        |  | NO<br>NO              |              | 8,300               |   |
| 135 PF              | -6  | 1,980                                   | 2,440 | 1200                              | 5 x 3,510                 | 40                              |  |                                |        |                      |  |               |  |        |  |                       |              | 6,700               |   |
|                     | -8  | 2,590                                   | 3,050 |                                   | 6 x 2,780                 | 48                              |  |                                |        |                      |  |               |  |        |  | 90                    | NO           | 7,700               |   |
|                     | -10 | 3,200                                   | 3,660 |                                   | 8 x 2,080                 | 64                              | 200  | 180                            | 380    | 175                  | 85   | 1 to 23       | 1 to 78  | 865    | 90                                     | NO<br>NO              | 11.2         | 9,000               |   |
|                     | -12 | 3,810                                   | 4,270 |                                   | 10 x 1,610                | 80                              |  |                                |        |                      |  |               |  |        | 115                                    | YES                   |              | 10,800              |   |
| 175 PF              | -6  | 2,000                                   | 2,440 | 1550                              | 6 x 3,610                 | 48                              |  |                                |        |                      |  |               |  |        |  |                       |              | 8,400               |   |
|                     | -8  | 2,610                                   | 3,050 |                                   | 8 x 2,690                 | 64                              |  |                                |        |                      |  |               |  |        |  | NO                    | NO           | 9,500               |   |
|                     | -10 | 3,210                                   | 3,660 |                                   | 10 x 2,090                | 80                              | 250  | 180                            | 430    | 200                  | 76   | 1 to 17       | 1 to 85  | 865    | 115                                    | NO<br>NO              | 11.2         | 11,100              |   |
|                     | -12 | 3,820                                   | 4,270 |                                   | 12 x 1,690                | 96                              |  |                                |        |                      |  |               |  |        |  | YES                   |              | 13,200              |   |
| 230 PF              | -6  | 1,990                                   | 2,440 | 2040                              | 8 x 3,540                 | 64                              |  |                                |        |                      |  |               |  |        |  |                       |              | 10,200              |   |
|                     | -8  | 2,600                                   | 3,050 |                                   | 10 x 2,750                | 80                              |  |                                |        |                      |  |               |  |        |  | NO                    | NO           | 11,500              |   |
|                     | -10 | 3,210                                   | 3,660 |                                   | 12 x 2,220                | 96                              | 250  | 180                            | 430    | 200                  | 66   | 1 to 15       | 1 to 74  | 915    | 140                                    | NO<br>NO              | 11.2         | 13,200              |   |
|                     | -12 | 3,820                                   | 4,270 |                                   | 16 x 1,620                | 128                             |  |                                |        |                      |  |               |  |        |  | YES                   |              | 15,200              |   |
| 350 PF              | -8  | 2,590                                   | 3,050 | 3100                              | 10 x 4,180                | 80                              |  |                                |        |                      |  |               |  |        |  |                       |              | 15,600              |   |
|                     | -10 | 3,200                                   | 3,660 |                                   | 12 x 3,380                | 96                              | 250  | 205                            | 455    | 250                  | 44   | 1 to 8        | 1 to 40  | 915    | 140                                    | YES<br>YES            | 11.2         | 17,500              |   |
|                     | -12 | 3,810                                   | 4,270 |                                   | 15 x 2,460                | 128                             |  |                                |        |                      |  |               |  |        |  | YES                   |              | 20,000              |   |

1) One ton equals 2,000 pounds (9.13 kN).

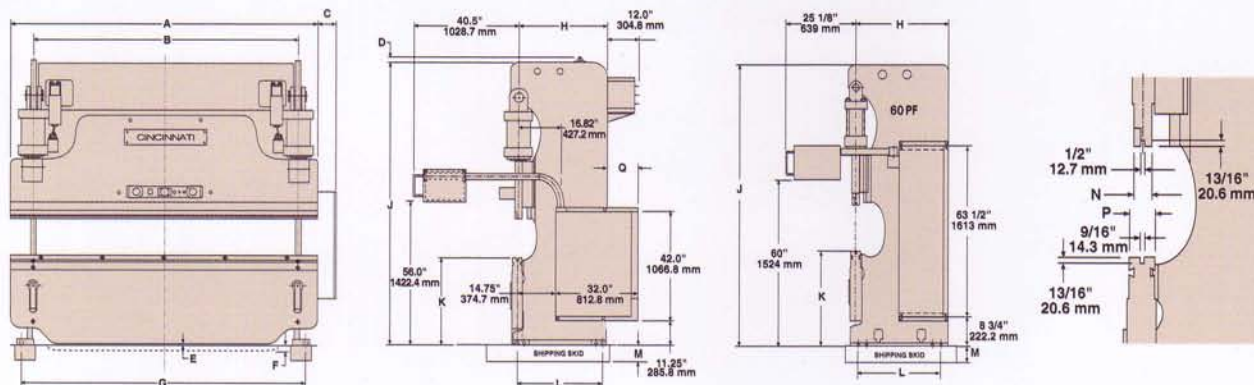
2) All bending capacities are listed for mild steel with a maximum tensile / yield strength of 60,000 psi (420 N/mm<sup>2</sup>)/40,000 psi (280 N/mm<sup>2</sup>).

3) Ram speeds are approximate based upon 1800 RPM motor, 60 hz.

4) Shipping weights based on standard machine without options. Consult factory for estimated shipping weight as equipped.



# Dimensions



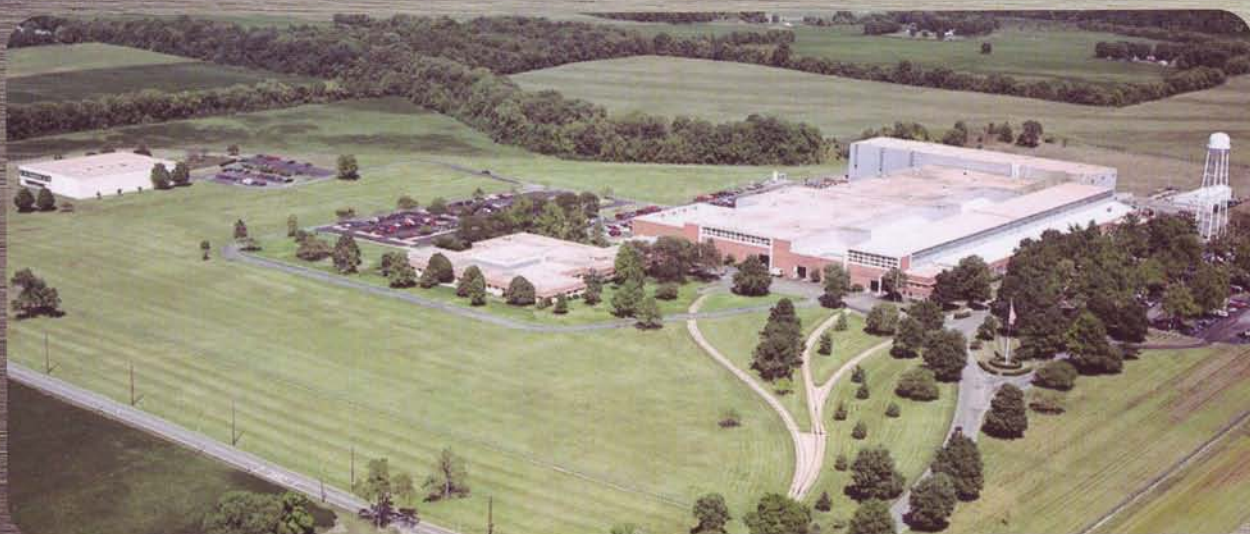
| MODEL  |     | A   | B          | C        | D      | E    | F      | G          | H       | J        | K   | L       | M   | N      | P      | Q   |
|--------|-----|-----|------------|----------|--------|------|--------|------------|---------|----------|-----|---------|-----|--------|--------|-----|
| 60 PF  | -2  | 4'  | 3' 1"      | 10-1/16" | -      | 9"   | -      | 3' 7-1/2"  | 33-1/2" | 101"     | 34" | 23-3/4" | 0"  | 2-1/2" | 3-1/2" | -   |
|        | -4  | 6'  | 4' 6"      | 6-9/16"  | -      | 3"   | -      | 5' 1/2"    | 33-1/2" | 101"     | 34" | 23-3/4" | 0"  | 2-1/2" | 3-1/2" | -   |
| 90 PF  | 6   | 8'  | 6' 6-1/2"  | 6-1/16"  | 6-5/8" | 1/4" | -      | 7' 3"      | 34-3/4" | 109-1/2" | 34" | 33"     | 6"  | 2-1/2" | 3-1/2" | 12" |
|        | -8  | 10' | 8' 6-1/2"  | 6-1/16"  | 6-5/8" | 1/2" | -      | 9' 3"      | 34-3/4" | 109-1/2" | 34" | 33"     | 6"  | 2-1/2" | 3-1/2" | 12" |
|        | -10 | 12' | 10' 6-1/2" | 6-1/16"  | 6-5/8" | 1/4" | -      | 11' 3"     | 34-3/4" | 109-1/2" | 34" | 33"     | 6"  | 2-1/2" | 3-1/2" | 12" |
| 135 PF | -6  | 8'  | 6' 6-1/4"  | 6-3/16"  | 6-5/8" | 1/4" | -      | 7' 3"      | 34-3/4" | 110-1/8" | 34" | 33"     | 6"  | 2-1/2" | 3-1/2" | 12" |
|        | -8  | 10' | 8' 6-1/4"  | 6-3/16"  | 6-5/8" | 1/4" | -      | 9' 3"      | 34-3/4" | 110-1/8" | 34" | 33"     | 6"  | 2-1/2" | 3-1/2" | 12" |
|        | -10 | 12' | 10' 6-1/4" | 6-3/16"  | 6-5/8" | 1/4" | -      | 11' 3"     | 34-3/4" | 110-1/8" | 34" | 33"     | 6"  | 2-1/2" | 4-1/2" | 12" |
|        | -12 | 14' | 12' 6-1/4" | 6-3/16"  | 6-5/8" | -    | 5"     | 13' 3"     | 34-3/4" | 110-1/8" | 34" | 33"     | 6"  | 2-1/2" | 4-1/2" | 12" |
| 175 PF | -6  | 8'  | 6' 6-3/4"  | 6-11/16" | -      | 2"   | -      | 7' 5-1/2"  | 39-3/4" | 123-1/2" | 34" | 38"     | 6"  | 2-1/2" | 4-1/2" | 7"  |
|        | -8  | 10' | 8' 6-3/4"  | 6-11/16" | -      | 1/4" | -      | 9' 5-1/2"  | 39-3/4" | 123-1/2" | 34" | 38"     | 6"  | 2-1/2" | 4-1/2" | 7"  |
|        | -10 | 12' | 10' 6-3/4" | 6-11/16" | -      | 1/4" | -      | 11' 5-1/2" | 39-3/4" | 123-1/2" | 34" | 38"     | 6"  | 2-1/2" | 4-1/2" | 7"  |
|        | -12 | 14' | 12' 6-3/4" | 6-11/16" | -      | -    | 6"     | 13' 5-1/2" | 39-3/4" | 123-1/2" | 34" | 38"     | 6"  | 2-1/2" | 4-1/2" | 7"  |
| 230 PF | -6  | 8'  | 6' 6-1/2"  | 6-13/16" | -      | 2"   | -      | 7' 5-1/2"  | 39-3/4" | 126-1/4" | 36" | 38"     | 6"  | 2-1/2" | 5-1/2" | 7"  |
|        | -8  | 10' | 8' 6-1/2"  | 6-13/16" | -      | 1/4" | -      | 9' 5-1/2"  | 39-3/4" | 126-1/4" | 36" | 38"     | 6"  | 2-1/2" | 5-1/2" | 7"  |
|        | -10 | 12' | 10' 6-1/2" | 6-13/16" | -      | 1/4" | -      | 11' 5-1/2" | 39-3/4" | 126-1/4" | 36" | 38"     | 6"  | 2-1/2" | 5-1/2" | 7"  |
|        | -12 | 14' | 12' 6-1/2" | 6-13/16" | -      | -    | 5"     | 13' 5-1/2" | 39-3/4" | 126-1/4" | 36" | 38"     | 8"  | 2-1/2" | 5-1/2" | 7"  |
| 350 PF | -8  | 10' | 8' 6"      | 7-1/16"  | -      | -    | 4"     | 9' 5-1/2"  | 55"     | 133-5/8" | 36" | 45-1/2" | 8"  | 3"     | 5-1/2" | -   |
|        | -10 | 12' | 10' 6"     | 7-1/16"  | -      | -    | 7-1/2" | 11' 5-1/2" | 55"     | 133-5/8" | 36" | 45-1/2" | 12" | 3"     | 5-1/2" | -   |
|        | -12 | 14' | 12' 6"     | 7-1/16"  | -      | -    | 12"    | 13' 5-1/2" | 55"     | 133-5/8" | 36" | 45-1/2" | 12" | 3"     | 5-1/2" | -   |

## METRIC

| MODEL  |     | A<br>mm | B<br>mm | C<br>mm | D<br>mm | E<br>mm | F<br>mm | G<br>mm | H<br>mm | J<br>mm | K<br>mm | L<br>mm | M<br>mm | N<br>mm | P<br>mm | Q<br>mm |
|--------|-----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 60 PF  | -2  | 1220    | 940     | 179     | -       | 230     | -       | 1105    | 851     | 2565    | 864     | 603     | 152     | 64      | 89      | -       |
|        | -4  | 1830    | 1370    | 90      | -       | 76      | -       | 1537    | 851     | 2565    | 864     | 603     | 152     | 64      | 89      | -       |
| 90 PF  | -6  | 2440    | 1990    | 154     | 46      | 6       | -       | 2210    | 883     | 2781    | 864     | 838     | 152     | 64      | 89      | 305     |
|        | -8  | 3050    | 2600    | 154     | 46      | 13      | -       | 2820    | 883     | 2781    | 864     | 838     | 152     | 64      | 89      | 305     |
|        | -10 | 3660    | 3210    | 154     | 46      | 6       | -       | 3429    | 883     | 2781    | 864     | 838     | 152     | 64      | 89      | 305     |
| 135 PF | -6  | 2440    | 1987    | 157     | 46      | 6       | -       | 2210    | 883     | 2797    | 864     | 838     | 152     | 64      | 89      | 305     |
|        | -8  | 3050    | 2597    | 157     | 46      | 6       | -       | 2820    | 883     | 2797    | 864     | 838     | 152     | 64      | 89      | 305     |
|        | -10 | 3660    | 3207    | 157     | 46      | 6       | -       | 3429    | 883     | 2797    | 864     | 838     | 152     | 64      | 114     | 305     |
|        | -12 | 4270    | 3816    | 157     | 46      | -       | 127     | 4039    | 883     | 2797    | 864     | 838     | 152     | 64      | 114     | 305     |
| 175 PF | -6  | 2440    | 2000    | 170     | -       | 51      | -       | 2274    | 1010    | 3137    | 864     | 965     | 152     | 64      | 114     | 178     |
|        | -8  | 3050    | 2610    | 170     | -       | 6       | -       | 2883    | 1010    | 3137    | 864     | 965     | 152     | 64      | 114     | 178     |
|        | -10 | 3660    | 3200    | 170     | -       | 6       | -       | 3493    | 1010    | 3137    | 864     | 965     | 152     | 64      | 114     | 178     |
|        | -12 | 4270    | 3830    | 170     | -       | -       | 152     | 4103    | 1010    | 3137    | 864     | 965     | 203     | 64      | 114     | 178     |
| 230 PF | -6  | 2440    | 1990    | 173     | -       | 51      | -       | 2274    | 1010    | 3206    | 914     | 965     | 152     | 64      | 140     | 178     |
|        | -8  | 3050    | 2600    | 173     | -       | 6       | -       | 2883    | 1010    | 3206    | 914     | 965     | 152     | 64      | 140     | 178     |
|        | -10 | 3660    | 3210    | 173     | -       | 6       | -       | 3493    | 1010    | 3206    | 914     | 965     | 152     | 64      | 140     | 178     |
|        | -12 | 4270    | 3820    | 173     | -       | -       | 127     | 4103    | 1010    | 3206    | 914     | 965     | 203     | 64      | 140     | 178     |
| 350 PF | -8  | 3050    | 2590    | 179     | -       | -       | 102     | 2883    | 1397    | 3394    | 914     | 1156    | 203     | 76      | 140     | -       |
|        | -10 | 3660    | 3200    | 179     | -       | -       | 191     | 3493    | 1397    | 3394    | 914     | 1156    | 305     | 76      | 140     | -       |
|        | -12 | 4270    | 3810    | 179     | -       | -       | 305     | 4103    | 1397    | 3394    | 914     | 1156    | 305     | 76      | 140     | -       |

CINCINNATI follows the policy of continuous advancement in product development. For this reason specifications and dimensions are for reference only and may be changed without notice. Foundation plans will be furnished for each new machine installation.





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