Bending Redefined

MC Machinery is leading the way in Press Brake technology. The Diamond series is the premiere product in our press brake line up. It features the new MOS control with enhanced industry leading functionality, but it’s much more than just a new controller. Our engineers have paid close attention to integrating the best electronics to enhance the bending experience. Mitsubishi Electric is a world leader in industrial electronic controls and components, and our mission is to provide the best products and service with unsurpassed quality and reliability.
Easy Process Operation

Ability to see full screen simulation in real time with full zoom/tilt. Any operation can be accessed from this page.
Improved CAD/CAM
Whether you’re programming off-line or at the press brake, the operator has greater visibility and editing functions at the control.

Predictive Programming
Enhanced user friendly features such as predictive programming, auto tool confirmation, and auto tool layout, saves operator time at the control for greater productivity.

Improved Operator Support
Smarter Operator Experience or Intelligent Operator Experience Redesigned UI advances the level of operator support from announcement indicators to predictive programming.

Predictive Programming
Enhanced user friendly features such as predictive programming, auto tool confirmation, and auto tool layout, saves operator time at the control for greater productivity.

Onboard Maintenance
Check everything from battery level, alarm history, trend monitors, or machine results.

Tool Library
Complete tool library can be set up by manufacturer, common layout, set favorites, or available tooling.

Machine is ready
NEW CONTROL
BB SERIES

• High-Accuracy (±1 micron)
• Intuitive Control
• Highly reliable / High uptime
• Cost efficient operation
• World class productivity
• Ecological (all electric/oilless)
The BB Series ball screw press brake is driven by an AC servo motor and ball screw drive mechanism, maximizing productivity with high-speed ram and high precision repeatability (1 micron). This drive method is superior to all other electric/hydraulic performance and is quiet in operation. When you want the 1st part to be the right part, let the BB bring you profit through precision.
Ball Screw Drive Mechanism

- High-speed movement by the ball screw drive
- Stable high repeating accuracy by the ball screw drive
- Environmental performance
  (oilless and noise reduction by the reducer)

1714 SPH (Strokes Per Hour)
- More strokes per hour than competitive machines
- Fastest ram response time in its class (2.1 sec)
Back Gauge

- With up to 6-axis available, the most complex parts can be easily formed.
- High-speed movement combined with high-accuracy drive (+.01 mm) ensures the back gauge is positioned quickly and precisely every time.
- Low profile back gauge enables part positioning on top of the back gauge.
- Independent servo drive (FF axis) allows for bending a wide variety of part shapes (option).

All Electric

The BB Series brakes are designed with a broad spectrum of ultra-modern features, high performance requirements, accuracy you can measure and a cost efficient operation our customers have come to expect in today’s modern production machinery.

- High-speed ram stroke by AC Servo motor and ball screw drive for fast approach, bending, and return speeds.
- High quality stop accuracy by AC servo motor and ball screw for unequaled ram positioning ±1 micron (±.001mm).
- Environmental performance (oilless and noise reduction by reducer).
- Single AC servo motor per ram axis provides faster cycle times resulting in more parts per hour.
BB SERIES

BB 306
Comfort Edition

- All Electric (AC Servo motor & ball screw)
- High precision back gauge with 5-axis equipped FF axis as standard
- Foldable front support table
- User-friendly control tilt for view angle change for standing/sitting operation

Featuring the new MOS control included on all Diamond Series press brakes, this machine provides all the accuracy and conveniences that our customers expect. The BB306 is one of the most requested machine sizes by our customers. With ergonomic features from the tilting control, flip support table, and 5-axis back gauge now combined with the BB series standard features such as thickness detection, PSP, and front/rear LED lighting, the BB306 packs a lot into a small footprint.
Servo Motor and Ballscrew Drive

5-Axis High Precision BG

IRIS PLUS Safety Device With Angle Measurement Function (Option)

Folding Front Table

Adjustable Tilt

Integrated Side Guards
BH SERIES

• Superior Accuracy (±1 micron)
• Intelligent Intuitive Control
• Highly Reliable
• Cost Efficient
• World Class Productivity
• Innovative Dual Drive System
The BH Series utilizes an innovative and leading-edge Dual Drive System with improvements in productivity, extremely precise positioning accuracies, and superior energy savings over conventional and other hybrid-style press brakes. This new technology allows high-speed movement of the ram at 200 mm/s with remarkable accuracy and repeatability. Our proprietary technology results in greater reliability, machine uptime, reduced operational cost and ease of operation – part after part, year after year.
BH SERIES

Dual Drive Technology

1. **RAPID DECENT**
   - High-speed ram stroke with AC servo motor and ball screw drive for extreme approach, bending, and return speeds
   - Ecology operation by assist device, less hydraulic oil with fewer oil changes required, and very low noise level in stand by and production.

2. **BENDING**
   - Ecology operation by assist device, less hydraulic oil with fewer oil changes required, and very low noise level in stand by and production.

3. **RAPID ASCENT**
   - Ecology operation by assist device, less hydraulic oil with fewer oil changes required, and very low noise level in stand by and production.
   - Fastest ram response time in its class (2.3 sec)

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**Assist Device**

- **Accumulator (Nitrogen gas)**
  - Ram moving downward by ball screw
  - Pressurization downward by hydraulic

**Ram Stroke**

- **Compression**
  - Ram moving upward by ball screw
  - Assist by accumulated energy

- **Release**
  - Ram moving downward by ball screw

1560 SPH (Strokes Per Hour)

- More strokes per hour than competitive machines
- Fastest ram response time in its class (2.3 sec)

ECOLOGY = ECO
Multiple Axis Back Gauge

- With up to 9-axis available, the most complex parts can be easily formed
- High-speed movement combined with high-accuracy drive (±.01 mm) ensures the back gauge is positioned quickly and precisely every time
- Low profile back gauge enables part positioning on top of the back gauge
- Independent servo drives for “Y” axis allow for tapered flanges
- Dual servo drive (FF axis) allows for bending a wide variety of part shapes (option)

Micro Wedge Crowning System

Automatic crowning adjustment is made quickly for each bending step without the need for operator input. Simple and fine adjustments by the operator at the touch of a finger without stress or confusion.

- Hydraulic assisted crowning bed design automatically provides consistent angular accuracy
- Combining the angular accuracy from the crowning system with Automatic thickness detection through PSP and CP detection angular irregularities are minimized due to material thickness and off center bending
- Easily program complete work flow in one handling through staged tool setups anywhere along the bed
## OPTIONS

### Available for BB Models, and BH Models
- Interlocked Side Gate*
- Small Punch Holder
- Touch Sensor**
- Hydraulic Clamping
- Moveable Foot Pedal
  *Available for all BH models and the BB 6020

### Available for Models
- BB 4013 and BB 6013 Only
- Front Support Table

### Available for BH Models Only
- Tandem Foot Pedal
- Sheet Follower
- Additional CNC Finger

### Additional Options
- Clamp Spacer
- Punch Holder Extension
- Bar Code Reader
- Finger Tip Styles
  - (Flat tip, Step Tip, Magnetic Tip, Crab Claw, Touch Sensor)
# SPECIFICATIONS

## BB SPECIFICATIONS

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<tr>
<th>Metric (US)</th>
<th>BB306</th>
<th>BB4013</th>
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## BH SPECIFICATIONS

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<td>20 (22)</td>
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</table>
DIAMOND BEND

OFFLINE SOFTWARE

“Know Before You Bend”

- Know You Have a Workable Design
- Know You Have the Accurate Flat Blank
- Know You Have the Tools for the Job
- Know You Have a Good Program and Setup

Eliminate wasted production time from trial and error programming on the machine. DiamondBEND offline Press Brake CAM provides the ability to program and fully simulate the bending process before parts are laser cut and formed.

Key Features

- Automatic Tool Selection and Bend Sequencing
- Full Collision and Tonnage Checking
- Easy Editing of Bend Sequence and Machine/Tool Setup
- Utilize all Press Brake Tool Styles and Suppliers
- Build and Share an Accurate Bend Database
- Interfaces with SolidWorks, Inventor and SpaceClaim CAD Systems
- Fully Integrated with New Murata Press Brakes

Get Up To Speed

DiamondBEND is designed to be easy to learn and use, featuring a modern Game Style User Interface. This clear and uncluttered interface makes it easy to program and follow the bending process.

Verify Your Design

DiamondBEND allows engineers and CAD operators to make a quick Go/No Go Bending Check to assure that their design is manufacturable with your tools and equipment.
DiamondBEND provides a comprehensive set of tools for creating and maintaining an accurate bend database. Build your bending information based on sound real life bending experience. The database can be shared with your CAD system and Murata press brake controls for consistency and ease of maintenance.

Organize Your Tooling

With DiamondBEND you can work with any tool supplier. We supply the standard online catalogs, you build your exact inventories. You can also design standard tools or import CAD geometry for special shapes. Use supplier’s Catalogs to analyze new tools before purchasing.

Verify Your program

DiamondBEND allows for the full simulation of bend operations before parts are sent to your press brakes. Any collisions, tooling shortages and over tonnage conditions are detected offline, avoiding mistakes and lost production on the shop floor. Tooling setup information can be viewed on the machine control or with paper reports.

DiamondBEND is part of the Mitsubishi Factory Network

Plug in and take control of your Bending Operation

- Optional Features for Monitoring, Scheduling and Controlling Production From Your Desktop
- Integrate and Coordinate with Upstream/Downstream Operations
- Optimize Machine Loading and Work Flow
- Customized Shop Floor Documents Printed On-The-Fly
The ATC provides production increases and set-up time decreases

Available exclusively on the BH Series, the ATC is yet another innovation in press brake technology brought to you by MC Machinery Systems. The ATC offers one of the largest tool storage systems on the market with the most flexibility of use. The perfect solution for high mix, low volume work in today’s modern manufacturing environment.

<table>
<thead>
<tr>
<th>Main Specifications</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Available models</td>
<td>ATC BH1353 / BH1853 / BH1854 / BH2503 / BH2504</td>
</tr>
</tbody>
</table>
| Number of tool stations (Standard 32m specification) | Punch 3 racks 4 cassettes per rack (12m)  
Die 4 rack 5 cassettes per rack (20m)  
Total 32m storage |
| Tool Style          | WT (New Standard) |
| ATC Location        | Left Hand |
| Max. Tool Layout    | 3060mm (120.47"), 4080mm (160.62") |
| V opening range in storage | 6mm (.236") - 50mm (1.969") |
| Punch reversal      | Yes |

- Large tool capacity: 32m x 52m
- Ability to load large tool sections up to 500mm
- Rotation Device: flip and change orientation of tools
- Ability to be combined with VIDERE for the ultimate support system for operators
- ATC can be programmed offline or at the control
- Easily change tooling in storage unit
- Large robust single manipulator to change tools
- Pressbrake pre-machined to accept tool changer
- Automatically cleans tooling during tool change process every time
- Ability to use tooling not in the TC for programs
The VIDERE operator support system was developed to simplify press brake operations by showing functional process information that is simple to see and effortless to understand. Support information from setup to processing is displayed in real time, real size and real location. Setup and work handling that once required a skilled operator, is now simplified by VIDERE, improving productivity by reducing bending defects and eliminating non-value added steps in an operator’s daily machine interactions.

**Reduced Setup Time**
Because the shape, length, and install position information is displayed in front of the operator, it is quick and easy to understand for any skill level operator. Up to 80% reduction in setup time compared to a manually clamped machine.

**Fewer Mistakes**
The bending simulation is displayed on the front of the machine and guides the part handling from both a front and rear view, preventing mistakes of asymmetrical work. By displaying the work in front of the operator, it eliminates unnecessary movement. The larger format display is easily readable by the operator.

**Improved Productivity**
Reduced setup time, fewer bending mistakes, and less operator movement to the control to check the bending sequence or confirm dimensions, equals more parts per shift of operation. Increased production with the same footprint of a stand-alone machine without the large budget for automation.
Simple, Fast & Easy
Being a fellow Mitsubishi Corporation company, MAC Funding is an integral part of MC Machinery Systems. We work closely with MC Machinery to ensure every transaction is fast and simple, saving you time, effort, and most importantly money.

Fast Track
For loans up to $350,000, a signed loan application is all we need! The easy, one page application allows you to be approved within 24 hours. We also offer pre-approvals, allowing you to have your financing in place before you even decide on a machine!
Regionalized Service Network
With our industry-leading regionalized service network, we have the most experienced, knowledgeable and responsive employees in the industry. We’re here for you with phone support, operation training, on-site service, parts inventory and a robust, interactive website.

- With regionalized locations throughout North America, we can respond promptly to your service needs.
- We have the largest fleet of service vehicles in the field—three times more than any other company in the industry.
- From installation and on-site training to support and service throughout the life of your system, our national service network is just a phone call away.
- You’ll have access to 24/7 support, a detailed interactive parts catalog, printable machine manuals and software.

Application Support
The value of our support stretches well beyond service, parts and training. Our experienced and creative team members put their knowledge and problem-solving skills to work for you—offering application and engineering support that includes creating specialized shop-floor setups that work harder and get better results. Whether developing integrated manufacturing cells from the ground up or adding specific solutions to complement existing operations, our pre-sales, sales, installation and application support staff can help you eliminate bottlenecks, improve accuracy and drive throughput.
ABOUT MC MACHINERY SYSTEMS

MC Machinery Systems customers get the best of both worlds: A single source for a diverse arsenal of manufacturing technologies and our expansive and knowledgeable support network. Our expertise spans virtually every aspect of metalworking—from simple fabrication to CNC-driven, automated manufacturing cells.
APPLICATION SUPPORT

The value of our support stretches well beyond service, parts, and training. Our smart, experienced and creative team members put their knowledge and problem solving skills to work for you—offering application and engineering support that goes above and beyond what most suppliers can provide.

Having the widest range of manufacturing technology and expertise gives us the ability to create specialized shop-floor setups that work harder and get better results. Whether developing integrated manufacturing cells from the ground up, or adding specific solutions to complement existing operations, our pre-sales, sales, installation and application support staff can help you eliminate bottlenecks, improve accuracy and drive throughput.

MITSUBISHI CORPORATION

As part of the global Mitsubishi Corporation, MC Machinery Systems draws from an extensive global source of support and innovation. Mitsubishi Corporation employs more than 60,000 people around the world, across a wide spectrum of industries including machine tools and controls, automotive, aerospace, industrial machinery, elevator, energy, metals, chemical, food and textile. This diversity, strength and stability trickles down to MC Machinery Systems customers—who benefit from Mitsubishi’s massive global R&D efforts and widespread knowledge base.

To learn more about Mitsubishi Corporation, visit www.mitsubishicorp.com.