

EHC1003

VERTEXBEND SERIES

HYDRAULIC PRESS BRAKE

PRECISION BENDING SYSTEMS



EHC1003

VERTEXBEND HYDRAULIC PRESS BRAKE



- 1 Hydraulic drive for heavy-duty bending**
- 2 International-standard CNC controls**
- 3 Fast set-up; hydraulic clamping available**
- 4 6+1 axes configuration**

Hydraulic ram actuation

Rigid welded construction

Flexible tooling configurations

Precision and control

Multiple CNC control options

Heavy-duty forming

INDEX

01	PRODUCT OVERVIEW	02
02	CORE SPECIFICATION	04-05
03	EQUIPMENT & MOTION	06-11
04	CNC & SOFTWARE	12-16
05	SAFETY & TOOLING	17-18
-	CONTACT	19

MAIN CHARACTERISTICS

01 FORCE & APPLICATION

- 01 Hydraulic cylinders drive the ram and maintain bending pressure through the stroke.
 - 02 The EHC range covers press forces from 600 to 6000 kN.
 - 03 Bending lengths from 1500 to 6000 mm accommodate different part sizes.
-

02 STRUCTURE & CONTROL

- 01 Rigid welded construction supports heavy-duty forming.
 - 02 CNC control regulates ram speed, position and bending force.
 - 03 Different tooling and backgauge configurations support varied bending jobs.
-

03 SERVICE & OPERATION

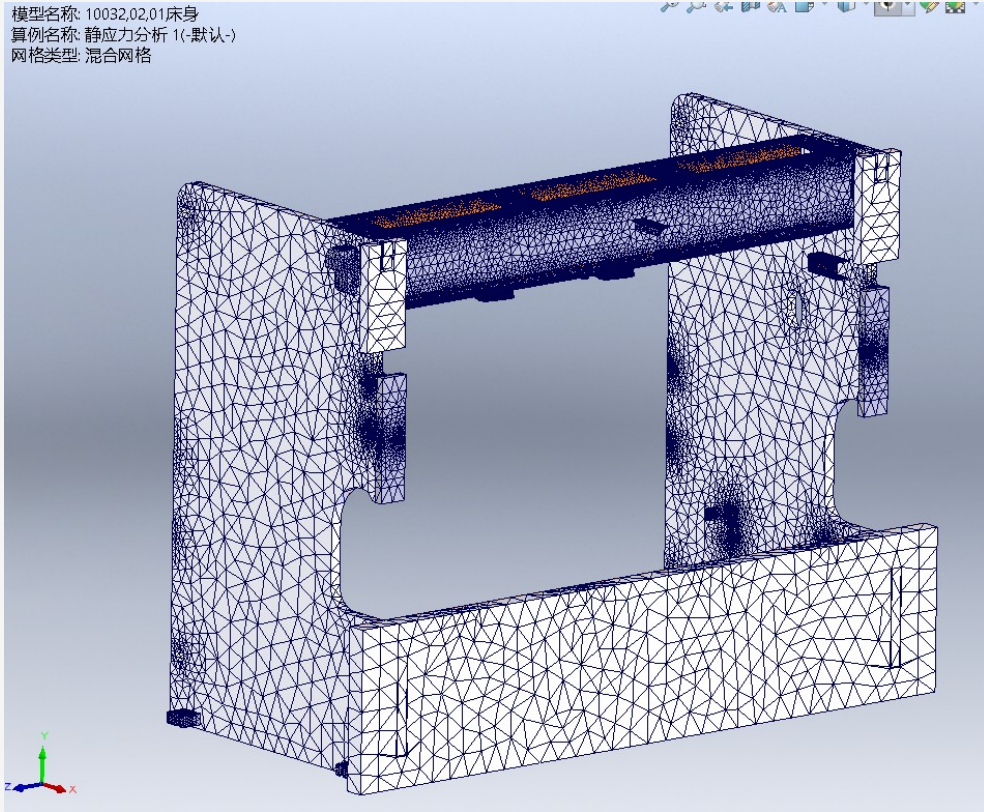
- 01 Routine maintenance covers hydraulic oil, seals, pumps, valves and pipelines.
 - 02 Oil temperature control and leakage prevention support long-term reliability.
-

TECHNICAL SPECIFICATION

EHC1003

Description	Unit	EHC1003
Press force	KN	1000
Distance between side frames	mm	2700
Bending length	mm	3200
Open height	mm	580
Standard stroke	mm	315
Throat depth	mm	405
Working height	mm	830
Axis	pcs	6+1
TRAVERSE PATHS		
Y axis	mm	315
X axis	mm	500
R axis	mm	200
Z axis	mm	2100
SPEED		
Y axis approach speed	mm/s	220
Y axis return speed	mm/s	210
Y axis bending speed	mm/s	17
X axis	mm/s	400
R axis	mm/s	120
Z axis	mm/s	1200
ACCURACY		
Y axis	mm	±0.01
X axis	mm	±0.01
R axis	mm	±0.1
Z axis	mm	±0.1
Power Supply	/	380VAC/3P+PE/50Hz
Size(L×W×H)	mm	3800X1720X2750
Ambient air temperature	°C	0-40°C
Noise level	dBA	75-85
Altitude	m	<1000
Design service life limit	year	10
Gross weight	kg	8400
Pneumatic pressure	MPa	/
Hydraulic system pressure	MPa	28
Main motor	kW	10.8
Gross motor	kW	13.6
oil consumption	L	300

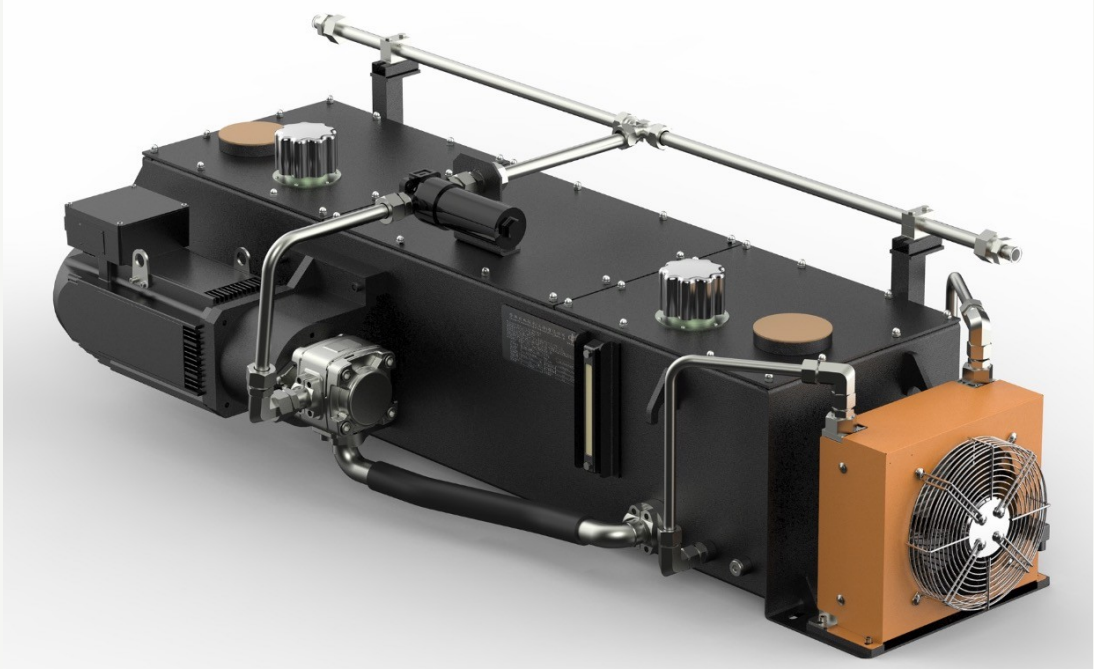
MAIN EQUIPMENT & FEATURES



- 01 ANSYS finite-element analysis verifies frame and slider strength.
- 02 Integral welded construction provides high structural rigidity.
- 03 Annealing and aging treatments relieve welding stress and protect long-term accuracy.



HYDRAULIC DRIVE



HYDRAULIC POWER TRANSMISSION

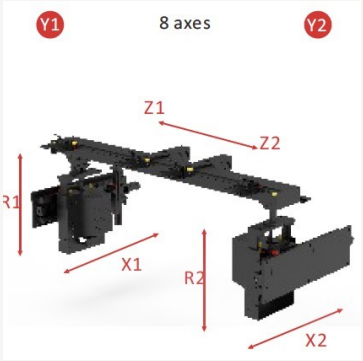
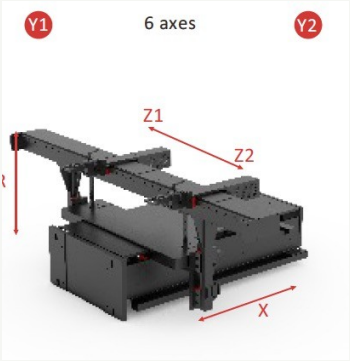
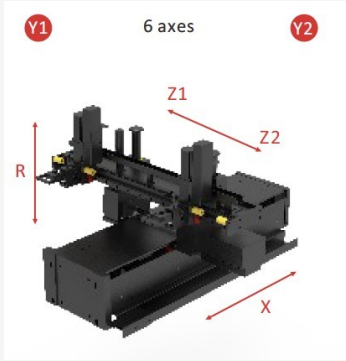
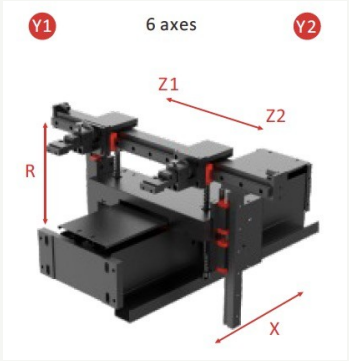
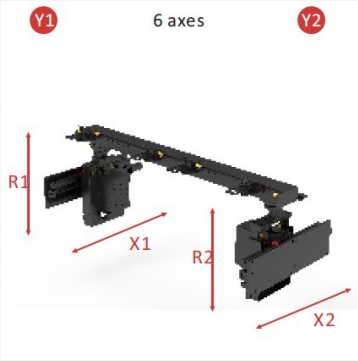
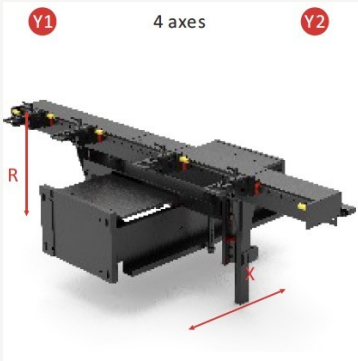
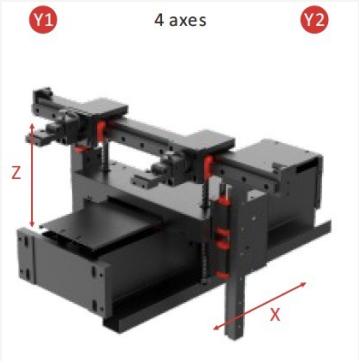
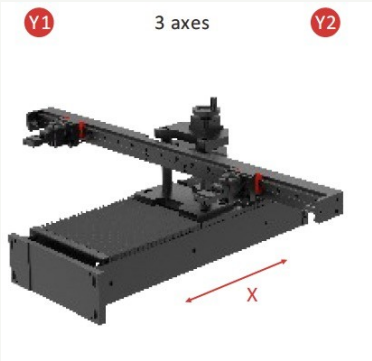
An electric motor drives the hydraulic pump. Pressurised oil flows through valves and pipelines to the cylinders, moving the ram and applying bending force to the sheet metal.

The control system adjusts oil flow, pressure and cylinder movement to regulate ram speed, position and bending force.

After bending, the hydraulic circuit redirects the oil to return the ram to its starting position. Electrical energy becomes hydraulic pressure, then mechanical force.

BACK GAUGES

Accurate sheet positioning for consistent bends. Multiple axis configurations extend flexibility for complex parts.



SHEET SUPPORT

SIMPLE SUPPORT ARMS WITH GUIDE

Two simple support arms with guide along the machine with height adjustment.



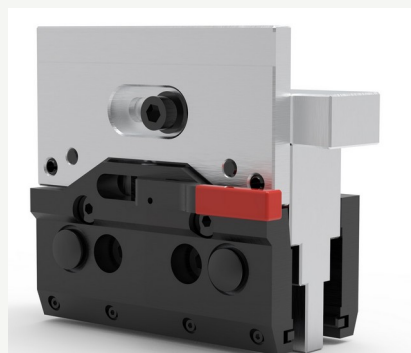
PROGRAMMABLE BENDING AID

Designed for bending large-format and heavy-gauge sheets, this lifting table serves as an essential bending aid for operator safety and part quality. The table elevation is programmable via the CNC control, automatically positioning the sheet at optimal working height.

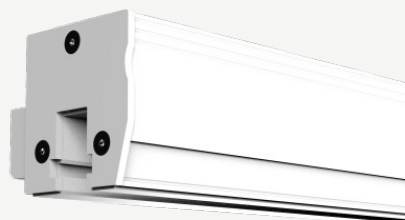


CLAMPING SYSTEM

AMADA-STYLE QUICK CLAMP



WILA-STYLE HYDRAULIC CLAMP



MECHANICAL-HYDRAULIC CROWNING SYSTEM

OPERATING PRINCIPLE

A series of wedge-shaped compensation blocks sits along the lower die mounting surface. Hydraulic actuation creates a controlled upward curve that counteracts ram and frame deflection during bending.



CNC-controlled hydraulic actuation combines with proven wedge mechanics to correct frame deflection while preserving the simplicity and durability required in demanding production environments.

CNC CONTROL



DELEM 53TX

" Hot-key" touch navigation
 15.6" high resolution wide screen TFT
 Up to 4 axes (Y1,Y2+2 aux. axes)
 Crowning control
 Tool /material /product library
 Servo and frequency inverter control
 Advanced Y-axis control algorithms for closed-loop as well as open-loop valves.
 2D graphical programming (optional)
 TandemLink (option)
 Network interfacing (optional)
 Profile-53TL offline software



DELEM 58TX

2D graphical touch screen programming
 18.5" high resolution colour TFT
 Bend sequence calculation
 Crowning control
 Tool /material /product library
 Servo and frequency inverter control
 Advanced Y-axis control algorithms for closed-loop as well as open-loop valves.
 Protractor interfacing (option)
 TandemLink (option)
 Network Interface (option)
 Profile-58TL offline software



DELEM 66S

2D graphical touch screen programming mode
 3D visualisation in simulation and production mode
 24" high resolution colour TFT
 Delem Modusys compatibility (module scalability and adaptivity)
 USB, peripheral interfacing
 Support for Industry 4.0 connectivity (OPC-UA optional)
 Shop floor control, Job list functionality
 Open system architecture
 Sensor bending & correction interface
 Profile-S2D offline software



DELEM 69S

3D and 2D graphical touch screen programming mode
 3D visualization, including 3D machine representation, in simulation and production
 24" high resolution color TFT
 Delem Modusys compatibility (module scalability and adaptivity)
 USB, peripheral interfacing; user specific application support within the control's multitasking environment
 Sensor bending & correction interface
 Profile-S3D offline software



ROCK / RK22 / RK15

Scheduled Maintenance Management for a machine always efficient
 IoT support through MQTT protocol
 Advanced programming assisted by attachments and video
 Sampling of the material for an accurate production
 Exporting of computed flat patterns as DXF files

DELEM DA-66S



EMBEDDED RELIABILITY

DA-66S

DA-60S - series 2D graphical control for CNC press brakes

The DA-66S control combines solid fundamental press brake control functionality with enhancements that increase productivity. High accuracy, ease of use and operator support make today's press brakes more versatile. Integration of machines in the manufacturing process chain is central to its design.

Industrial touch-screen technology gives access to the Delem user interface and direct navigation between programming and production. Functions are located where needed, supporting ergonomics throughout the application.

STATE-OF-THE-ART FUNCTIONALITY

2D programming includes automatic bend-sequence calculation and collision detection. Full 3D machine set-up with multiple tool stations provides feedback on feasibility and handling. Effective control algorithms optimise the machine cycle and minimise set-up time. The modular concept supports scalable configurations.

The real-time Linux operating system enables strong integration with the application and a robust basis for maximum reliability. Smooth start-ups are ensured, even after instant shut-off.

The OEM panel above the screen supports machine functions and application switches.

DA-66S FEATURES

- 2D graphical touch screen programming mode
- 3D visualisation in simulation and production mode
- 24-inch high-resolution colour TFT
- Delem Modusys modular scalability and adaptivity
- USB, peripheral interfacing
- Industry 4.0 connectivity (OPC-UA optional)
- Shop floor control; job list functionality
- Open system architecture
- Sensor bending & correction interface
- Profile-S2D offline software

DELEM DA-66S

SPECIFICATIONS

Product configuration

Standard

- Colour LCD display
- 24-inch TFT, high brightness
- 1920 × 1080 pixels, 32-bit colour
- Full touch screen control
- Storage capacity 4 GB
- 3D graphics acceleration
- Network connectivity
- Emergency switch
- Integrated OEM panel
- USB flash memory drive
- Profile-S2D offline software

Ordering information

- DA-66S
- DA-66S-P, CNC panel version

Factory option

- Panel version

Field options

- Part support control
- X1-X2 angle programming
- Barcode reader interfacing
- Protractor interfacing
- Frame deflection compensation
- Sensor bending & correction interfacing
- Sheet thickness measurement and compensation system
- DXF import support
- ACP (Additional Control Panel)
- OPC-UA interface



Delem DA-66S control

Technical specification

General

- Real-time Linux embedded OS
- Multitasking environment
- Instant Shut Off
- Delem Modusys compatible

Electrical / interfacing

- Power supply: 24V
- Modusys HSB bus
- RS232 port (2×)
- Network interface (3×)
- USB port (2×)
- Protractor interfacing
- Angle control interfacing

Control

- Servo / 2-speed AC control
- Unipolar / frequency inverter control
- Direct pressure valve control
- Direct proportional valve Y1, Y2 control
- Direct crowning control
- Multiple digital function outputs
- Tandem operation (multiple)

Mechanical

- Housing 611 × 547 × 123 mm
- Panel version 596 × 402 × 63 mm
- Design, glass surface, aluminium edge
- IP54
- Weight approx. 14.5 kg (incl. housing), 9 kg (panel version)

Programming

- Alphanumeric product naming
- Real-scale product programming and visualisation
- Job list functionality
- Automatic bend sequence calculation
- Easy graphical bend sequence swap and move
- Hemmed products programming
- One-page programming table
- Graphical product and tool selection
- Programmable material properties
- Programmable axis speed
- Free material programming
- Product & tool search filter
- Millimetres/inches, kN/Ton selection
- Stock counter
- Product notes

Tooling

- Graphical tool configuration
- Multiple tool station set-ups
- Tool segmentation visualisation
- Alphanumeric tool identification
- Free graphical tool programming
- Hemming tools
- Radius tools
- Tool adapter support
- DXF tool import (optional)

Computed

- Tooling safety zones
- Press force
- Bend allowance
- Crowning adjustment
- Developed length
- Bottoming force
- Hemming force
- Auto bumping calculation
- Radius programming
- Bend allowance table
- Tool configuration
- Tool segmentation
- Learned angle correction database

Miscellaneous

- Teach-in on all axes
- Handwheel movement of all axes
- Operator-selectable dialogue languages
- Integrated help functions
- Error messaging system
- Diagnostic program
- Remote diagnosis
- Software OEM panel
- User-specific applications support
- Machine time + stroke counter
- On-board analysis tool
- Sequencer functionality (PLC)
- Safety PLC interfacing

DELEM DA-69S



DA-69S FEATURES

- 01 3D and 2D graphical touch screen programming mode
- 02 3D visualisation in simulation and production mode
- 03 24-inch high-resolution colour TFT
- 04 Delem Modusys modular scalability and adaptivity
- 05 USB, peripheral interfacing
- 06 Industry 4.0 connectivity (OPC-UA optional)
- 07 Shop floor control; job list functionality
- 08 Open system architecture
- 09 Sensor bending & correction interface
- 10 Profile-S 3D offline software

DELEM DA-69S

SPECIFICATIONS

Product configuration

Standard

- Colour LCD display
- 24-inch TFT, high brightness
- 1920 × 1080 pixels, 32-bit colour
- Full touch screen control
- Storage capacity 4 GB
- 3D graphics acceleration
- Network connectivity
- Emergency switch
- Integrated OEM panel
- USB flash memory drive
- Profile-S 3D offline software

Ordering information

- DA-69S
- DA-69S-P, CNC panel version

Factory option

- Panel version

Field options

- Part support control
- X1-X2 angle programming
- Barcode reader interfacing
- Protractor interfacing
- Frame deflection compensation
- Sensor bending & correction interfacing
- Sheet thickness measurement and compensation system
- ACP (Additional Control Panel)
- OPC-UA interface



Delem DA-69S control

Technical specification

General

- Real-time Linux embedded OS
- Multitasking environment
- Instant Shut Off
- Delem Modusys compatible

Electrical / interfacing

- Power supply: 24V
- Modusys HSB bus
- RS232 port (2×)
- Network interface (3×)
- USB port (2×)
- Protractor interfacing
- Angle control interfacing

Control

- Servo / 2-speed AC control
- Unipolar / frequency inverter control
- Direct pressure valve control
- Direct proportional valve Y1, Y2 control
- Direct crowning control
- Multiple digital function outputs
- Tandem operation (multiple)

Mechanical

- Housing 611 × 547 × 123 mm
- Panel version 596 × 402 × 63 mm
- Design, glass surface, aluminium edge
- IP54
- Weight approx. 14.5 kg (incl. housing), 9 kg (panel version)

Programming

- Alphanumeric product naming
- 2D/3D real-scale product programming and visualisation
- Job list functionality
- Automatic bend sequence calculation in 2D and 3D
- Easy graphical bend sequence swap and move
- Hemmed products programming
- One-page programming table
- Graphical product and tool selection
- Programmable material properties
- Programmable axis speed
- Free material programming
- Product & tool search filter
- Millimetres/inches, kN/Ton selection
- Stock counter
- Product notes
- DXF import support

Tooling

- Graphical tool configuration
- Multiple tool station set-ups
- Tool segmentation visualisation
- Alphanumeric tool identification
- Free graphical tool programming
- Hemming tools
- Radius tools
- Tool adapter support
- DXF tool import

Computed

- Tooling safety zones
- Press force
- Bend allowance
- Crowning adjustment
- Developed length
- Bottoming force
- Hemming force
- Auto bumping calculation
- Radius programming
- Bend allowance table
- Tool configuration
- Tool segmentation
- Learned angle correction database

Miscellaneous

- Teach-in on all axes
- Handwheel movement of all axes
- Operator-selectable dialogue languages
- Integrated help functions
- Error messaging system
- Diagnostic program
- Remote diagnosis
- Software OEM panel
- User-specific applications support
- Machine time + stroke counter
- On-board analysis tool
- Sequencer functionality (PLC)
- Safety PLC interfacing

SAFETY

LASER SAFE PROTECTION

Emitting and receiving units create a continuous protective field around the punch tip. Operators can work safely while the tools approach at high speed; if an obstruction is detected, the press brake stops immediately.



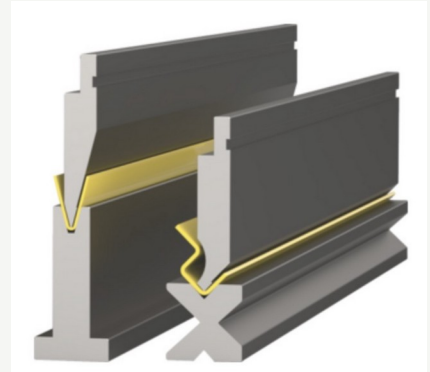
ADDITIONAL SAFETY FEATURES

- 01 Rear photocell protection (on request)
- 02 Interlocked side safety guards
- 03 Wide viewing area around the working zone
- 04 Emergency stops on the control panel and foot pedal

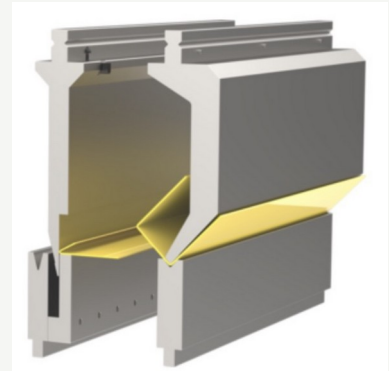
BENDING TOOLS

Industry-standard interfaces cover the most common press-brake tooling systems. Custom tooling can be engineered with customers for application-specific requirements.

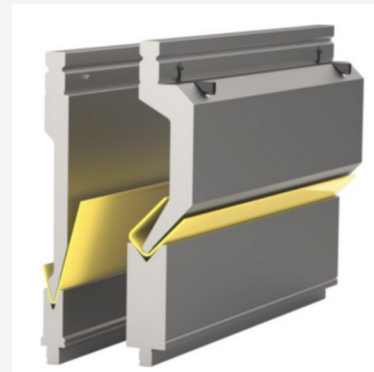
01 AMADA-STYLE



02 TRUMPF-STYLE



03 WILA-STYLE



PRECISION BENDING SYSTEMS



CONTACT

WEB	www.eko-equipment.com
EMAIL	anne@eko-equipment.com
MOBILE	+86 159 8667 1240
Factory address	No. 8 Huanwei Street, Fugang Village, Qingxi Town, Dongguan 518108, Guangdong, China.