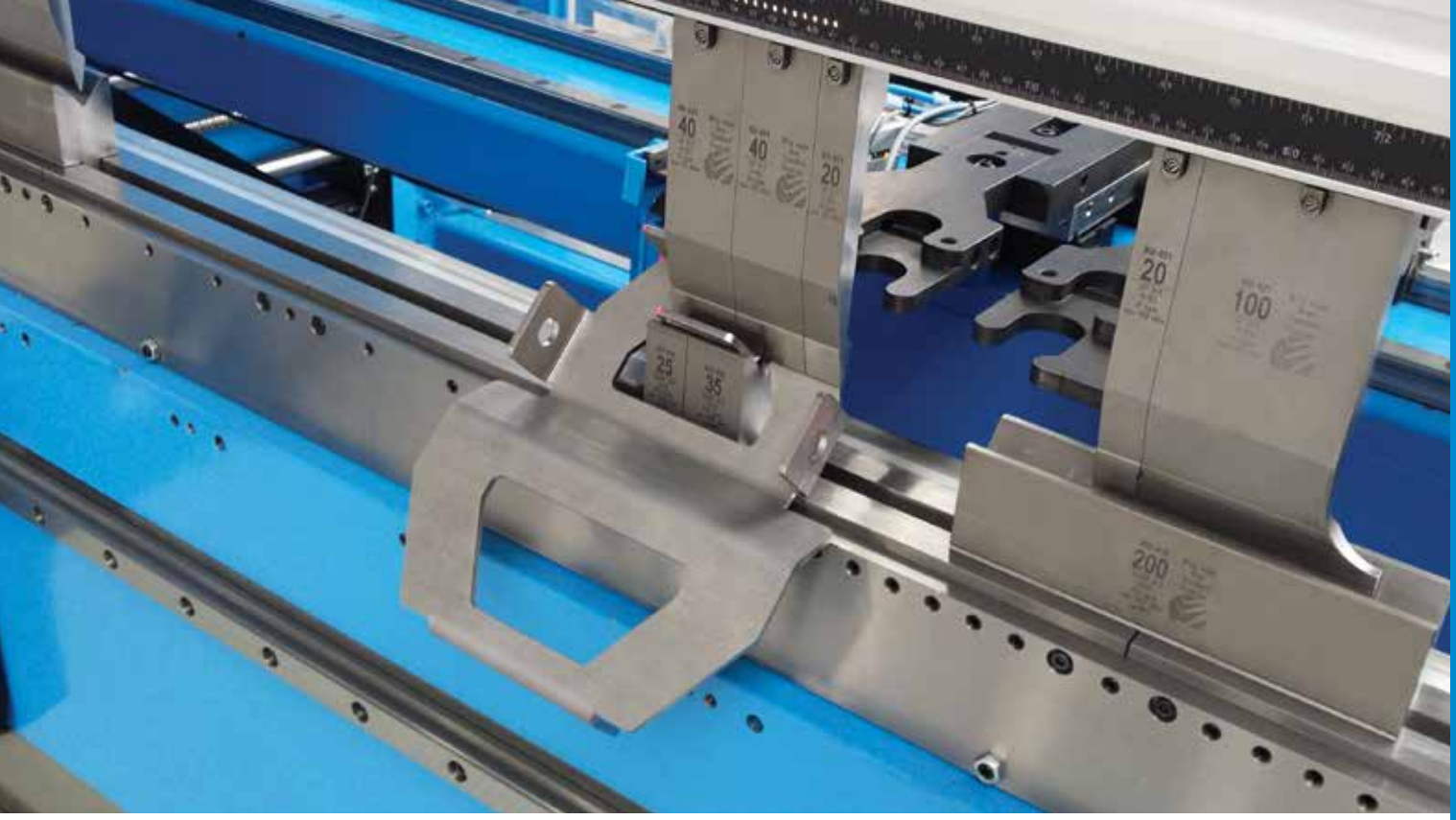


Prima Power

The Bend
The Combi
The Laser
The Press
The Punch
The Shear
The System
The Software

The Press | eP-Press

Servo-electric bending technology

Servo electric technology: innovation first

Prima Power has been a true pioneer in applying servo electronics in sheet metal working since 1998. Prima Power has applied a servo-electric drive system on the new eP-Series press. It is a fast, accurate, non-hydraulic bending solution.
The innovative machine concept combines productivity, accuracy, flexibility and reliability with high respect to ecological aspects – we call this concept "Green Means®".
The concept offers you both sustainability and manufacturing efficiency and productivity. It means greater versatility, lower power consumption, less maintenance and no oil to purchase or to get rid of. In addition, easy programming and outstanding accuracy eliminate waste production. You simply make better sheet metal components at lower cost.

ENERGY EFFICIENT
Less energy required and lower environmental impact.

PRODUCTIVE
High productivity due to reduced cycle times and higher process reliability.

FLEXIBLE
Suitable for a wide range of different products.

MODULAR
Capable of meeting any production need, with a variety of possible configurations.

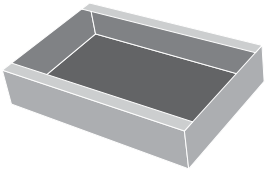
USER FRIENDLY
Easy to install, use and maintain.

High reliability and maximum productivity

The eP-Press features the advantages of high acceleration, deceleration and fast response times of the servo-electric drive system. Compared to conventional press brakes considerable productivity increase can be reached; reduction of cycle times by up to 30 % and more is the reality.

Working speed is programmable to ensure bending is made without loss of product quality or operator safety.
Lazer Safe's IRIS System provides safe high speed closing down to just 2 mm. Compared with other guarding systems or even unguarded machines, the block laser system can save up to 2 or more seconds per cycle.
Fast positioning speeds ensure the back gauge will be ready when the part is presented for each operation.

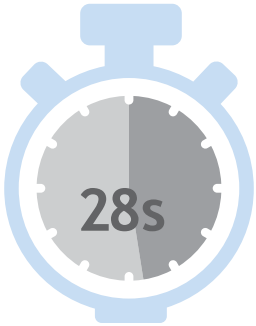
Different machines can have different maximum speed (fast approaching speed) but this does not have direct influence in bending time cycle. Time cycle of eP is always the best even if compared to a machine that on the catalogue seems to be fast; the excellent dynamic and total absence of dead phases makes the difference.
Here a direct comparison among different press brake.



Time cycle comparison

Bending time necessary to realize this 6 bend box - only machine time.

100 t Hydraulic
200 mm/s



100 t Electric
75 mm/s

eP-1030
110 mm/s

eP-Press Evolution Chart

1988
1st hydraulic Press Brake

2003
Launch of the New Servo electric Press Brake

2012
Shift of series: new eP family

2015
New eP-2040

Hydraulic

Servo electric

Design concept

Pulley belt force transmission

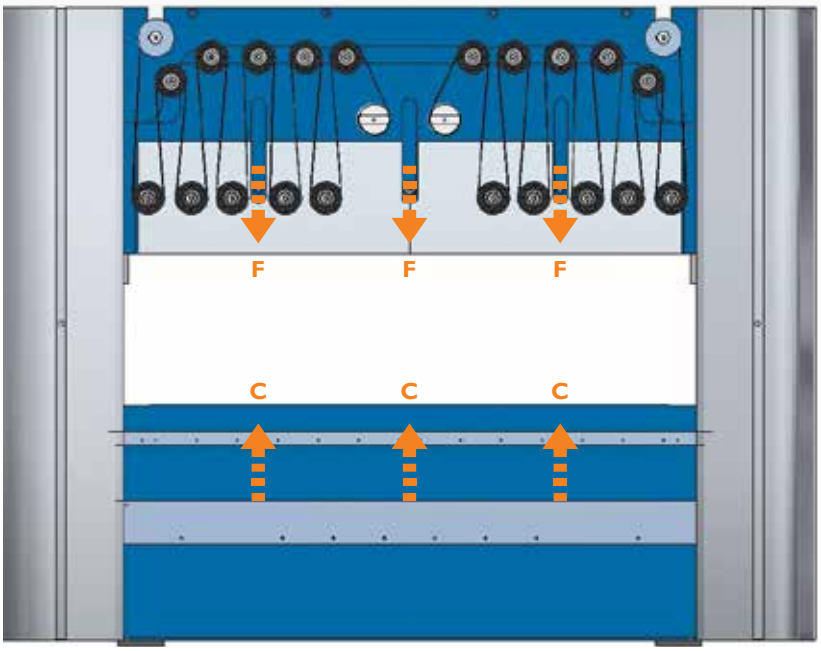
The pulley belt system is actuated by Prima Electro servo drives and distributes the bending force over the whole bending length. The system consists of fixed and moving rolls spread out over the total working length of the upper beam. The belt itself is a steel wire reinforced maintenance free belt. It is not a tooth-belt, nor is the functioning based on friction, but the entire force is transmitted trough tension – a simple and reliable solution. Servo motor drives offer superior movement control and accuracy. Thermal influences on precision are eliminated through the absence of oil.

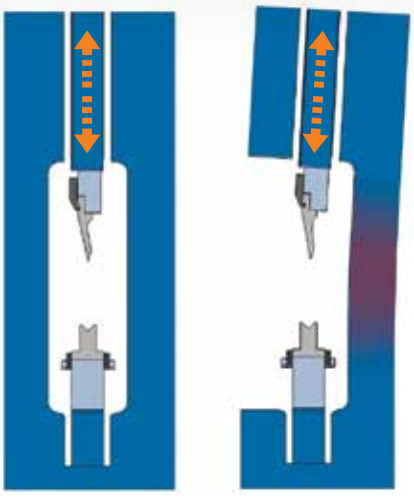
5-year warranty

The steel reinforced belts made of modified polyurethane are extremely flexible, hardwearing and durable. They are virtually corrosion resistant due to their galvanised steel, and their polyurethane coating ensures anti-slip traction and efficient, very smooth running power transmission. In combination with an annual service contract, Prima-Power grants a 5-year warranty for the mechanical drive system.

Stable eP-Brake frame

The Prima Power eP-Press is based on a rigid O-frame. This ensures tool alignment even under stress deformation since there is no horizontal displacement. The position of the upper beam, in relation to the lower beam, is measured by dual Y1 and Y2 linear encoders that are attached independent of the machine frame and are bed referenced. This design isolates ram positioning accuracy from any deflection in the side frames under load and maintains accurate positioning even during off centre bending operations. Ram repeatability on the eP-series is ± 0.005 mm.





O-Frame

Conventional Frame

F = Force **C** = Compensation

Ease of programming

The eP-series utilizes the Prima Industrie Group's know-how in control technology and features the Prima Electro Open Control. For maximum processing speed, this MSWindows based control has two separate processors, one for real time operations and one for bending application tasks.

An operator friendly 17" Touch Screen user interface leads to a significant improvement of data input rates and a considerable reduction in programming time.
2D graphical programming with automatic bending sequencing will assist in making even first time operators productive.

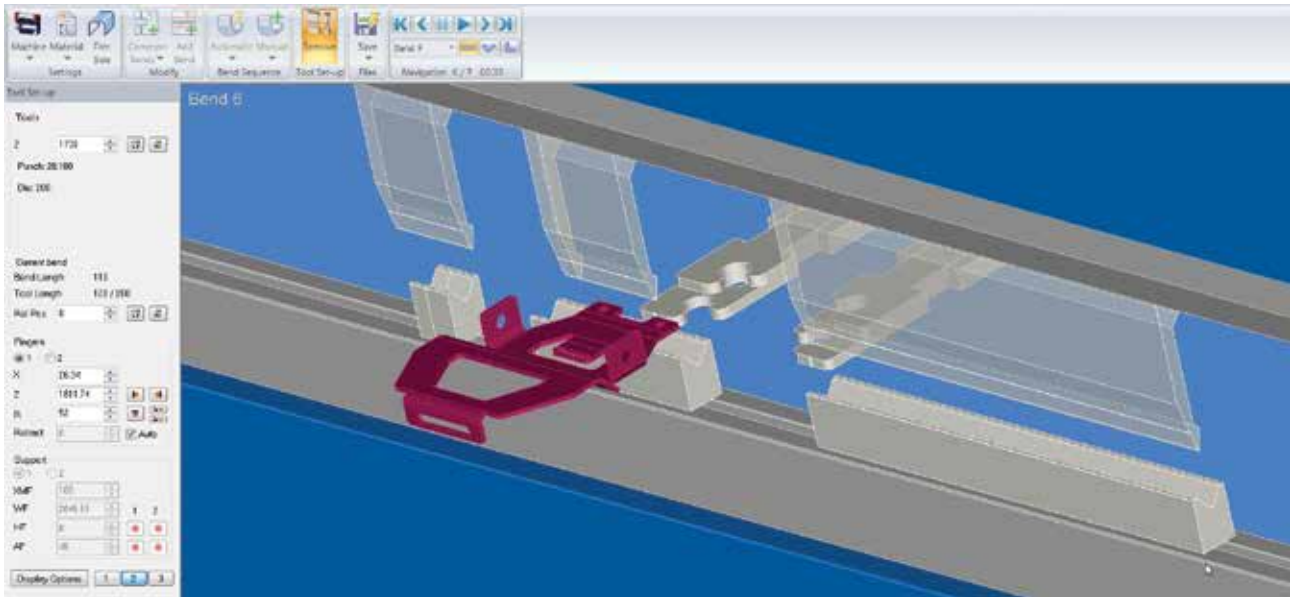
Most bending applications are easily programmed by using the 2D graphical on-line programming with auto sequencing. As the demands may change in the course of time one may face the necessity of 3D off-line programming and 3D visualization of the parts in the machine control.

AutoPOL offline programming

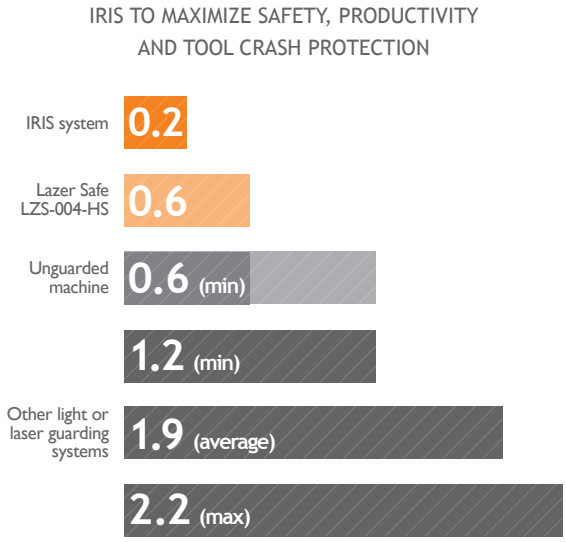
AutoPOL is an easy-to-use and effective tool for offline programming of Prima Power eP-Press. Sophisticated bending simulation makes it possible to shorten set-up times and to ensure already in the office that the bending task can be performed.

3D models can be created with AutoPOL's designer program or they can be imported in 2D and 3D-format from any CAD program. AutoPOL's bend allowance algorithm takes into account also bending tools to obtain correct radii and thus correct unfolding dimensions. The 2D unfold pattern can be exported as a DXF file to be used in programming punching and cutting machines.

AutoPOL includes a 3D designer for designing of sheet metal parts, 2D and 3D file import functions, an Unfolder for automatic flat part calculation and a Bend Simulator for graphical programming and simulation.



The state of the art in combining safety, productivity and precision



Comparison time in slow speed closing (seconds per cycle)

The IRIS System safety equipment by Lazer Safe represents the most advanced safety solution for press brakes in terms of productivity and protection level. Its unique features increase the competitiveness of the eP-Press:

- Speed change at 2 mm above material
- Allows the operator to safely work close to the tools without interrupting high approaching speed
- Tool crash protection
- Box mode to achieve complex shapes with no compromise to speed
- Fully integrated in the control; different operating modes selectable bend by bend (stop at mute, auto mute, box flange height)
- Fast removal with automatic repositioning for lateral tool changing
- Angle measurement option

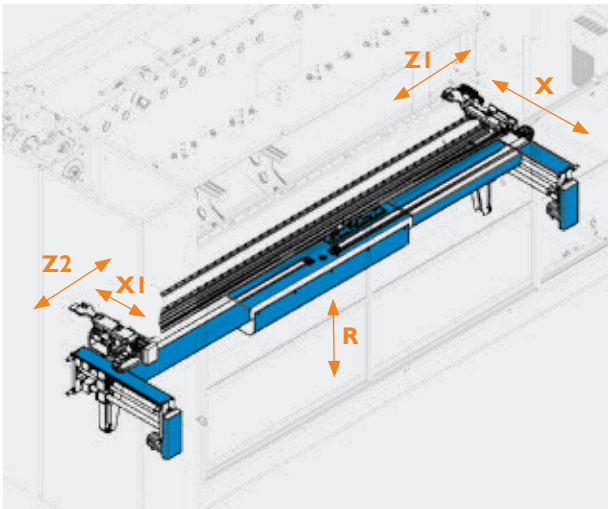
Box mode

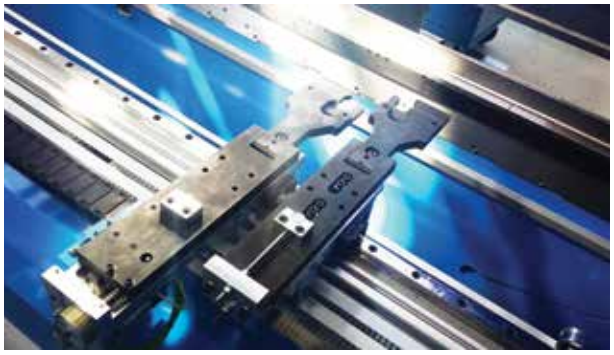
The fully integration between Prima Electro Open CNC and Lazer Safe Safety Device is perfectly showed in the BOX MODE feature.
The operator can bend boxes in total safety and according to EC safety rules even in high approaching speed, reducing time cycle for this challenging operation and strongly increasing eP productivity.

eP-Press Back Gauges

Apart of its outstanding rigidity and stress behaviour, the O-frame construction offers big advantages in terms of flexibility. The uprights being mounted out-side the bending length, there is no throat limitations for long parts that is typical with C-frame structures; distance between uprights = maximum bending length! In addition the back gauge system can be used effectively over the whole bending length.

A programmable dual drive back gauge is standard on all eP-Series press brakes. Two rigid fingers are provided with manual adjustment along the length of the gauge via linear-guides. Three stops are available to maximize the target surface for the operator and to extend the back gauge range while providing material support for deep flanges.





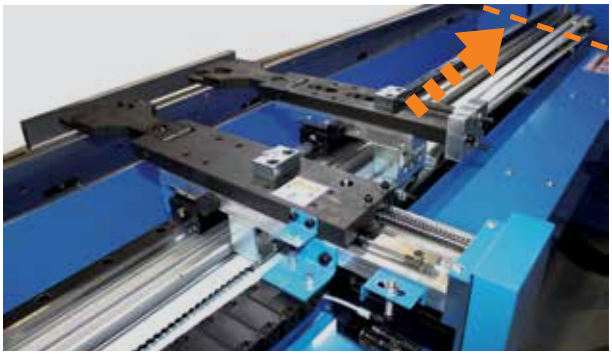
Relative X1-axis for gauging of e.g. conic parts.

For higher flexibility and productivity the standard BG2 can be equipped with CNC controlled:

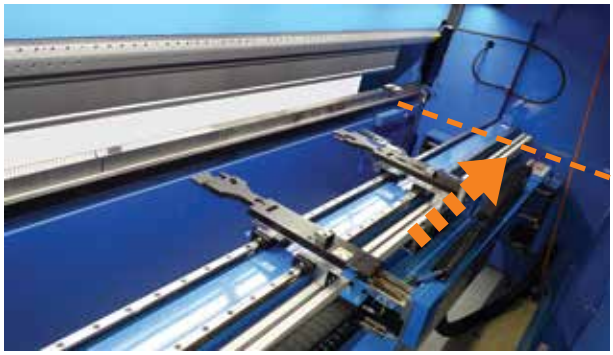
- Z1- and Z2-axis for side movement of the fingers,
- Relative X-movement, X1, to program a different depth position for one finger.

The eP series can be equipped with two versions of back gauges:

- eP-0520 and eP-1030 with back gauge in aluminium and hardened linear guide for the Z axis. This construction has the advantage of a higher level dynamics and extreme movement accuracy.
- eP-1336 and eP-2040 have a rigid steel frame and double-hardened linear guide for Z axis and double guide on X axis. This construction maximizes the rigidity of the system for high demanding customers.



Gauging over the whole bending length
(in the photo, BG for eP-0520 and eP-1030).



Gauging over the whole bending length
(in the photo, BG for eP-1336 and eP-2040).

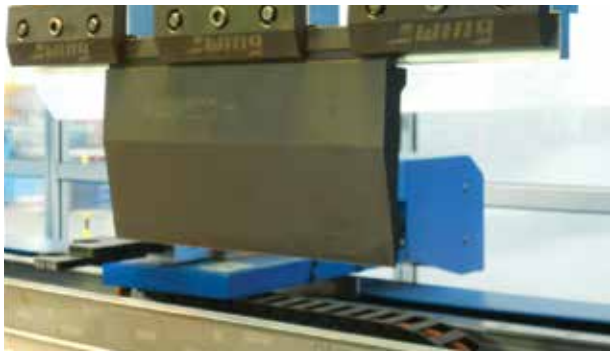
Open Tooling System

Prima Power eP-press can be personalized according the customer needs. The working area can be equipped with Wila Style clamping or with European Style clamping. This flexibility, joined to the possibility to choose the machine opening dimension, allows our eP to be easily integrated in existing bending department.

Prima Power eP-Press tool adapter

Wila Style manual clamping (standard or hardened).

Wila style Hydraulic clamping (standard or hardened – here with STL option).

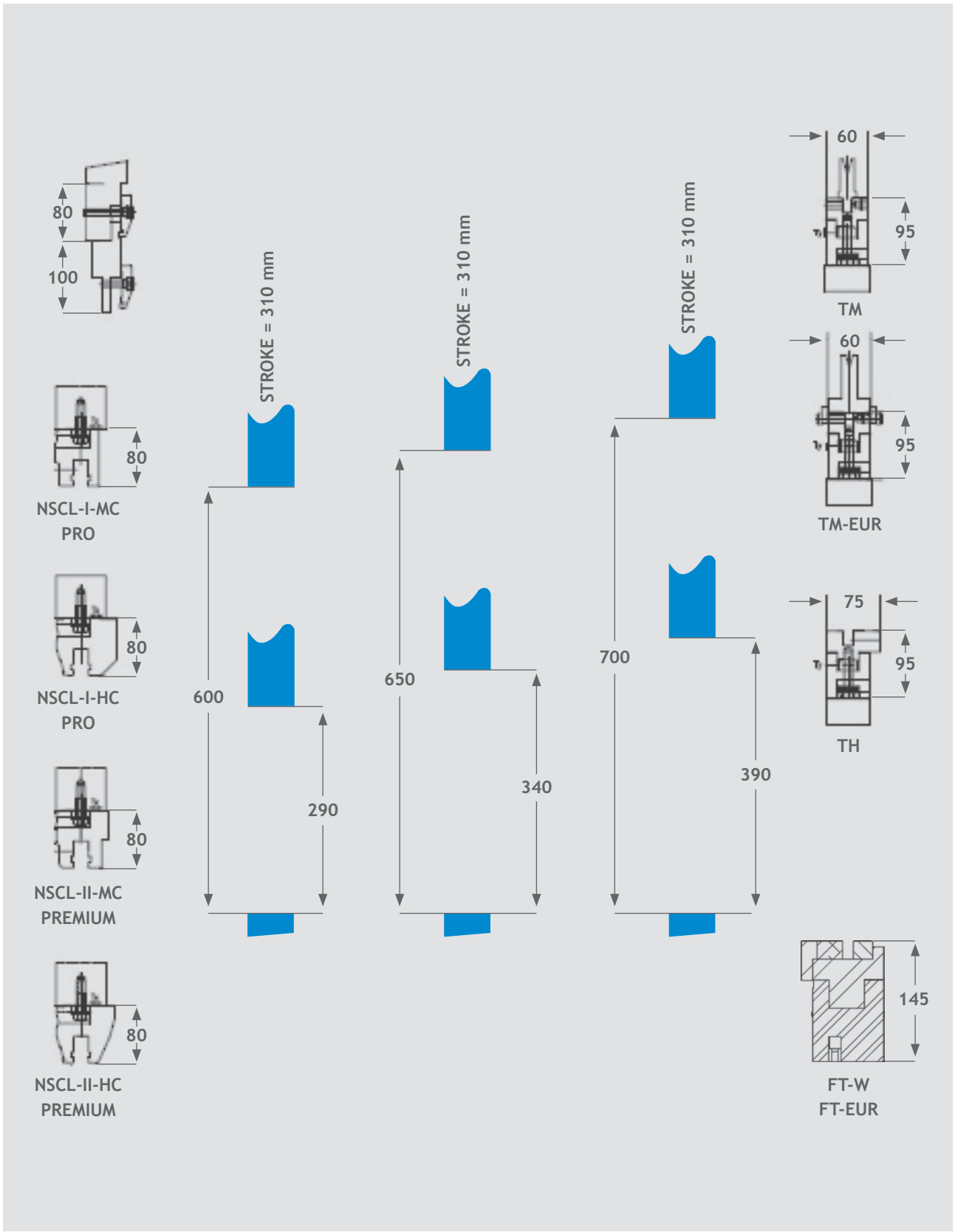


European Style manual clamping with intermediates (H=100mm) in standard or fast version.

European style pneumatic clamping with intermediates (H=100mm) with vertical tools insertion.

Clamping configuration

Representation of the working area according to the different machine opening that can be chosen.
Both upper and lower clamping can be personalized upon customer needs.



Options

for increasing your productivity

TMS

The Prima Power TMS Thickness Measurement System provides reliable and fast thickness measurement. The TMS is mounted next to the left back gauge finger allowing thickness measurement simultaneously with part gauging. Thanks to the integration into the Prima Electro Open Control measuring results are automatically transferred to NC program without operator intervention.

FRONT SUPPORTS

The eP-Series press brakes can optionally be equipped with heavy duty front supports mounted on linear guides.

The maximum pay load is of 150 kg each.

BENDING FOLLOWER

Positioning big parts is often difficult and wrong timing in supporting the part during bending causes angle deviations.

With Prima Power AQ bending follower these bending applications can be easily mastered by an operator.

A second operator is no more needed.

ANGLE CONTROL

IRIS PLUS

Real time angle correction

An important device for the most demanding applications.

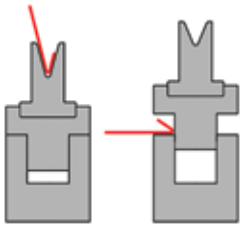
This real time angle correction device allows an outstanding bending performance.

Fully integrated with Prima Electro Open CNC, this device can be used as a total bending controller. Deviation of thickness, spring back, lamination, material strength are corrected while bending, reaching a new working level.

FLATTENING TABLE

A new specific device to increase productivity and easy operating.

With this flattening table is no more necessary to assemble and disassemble heavy and no precise hemming tools.



The flattening part of the table (hardened on working surfaces) is pneumatically opened by the CNC when needed. The clamping area can be personalized according customer needs.

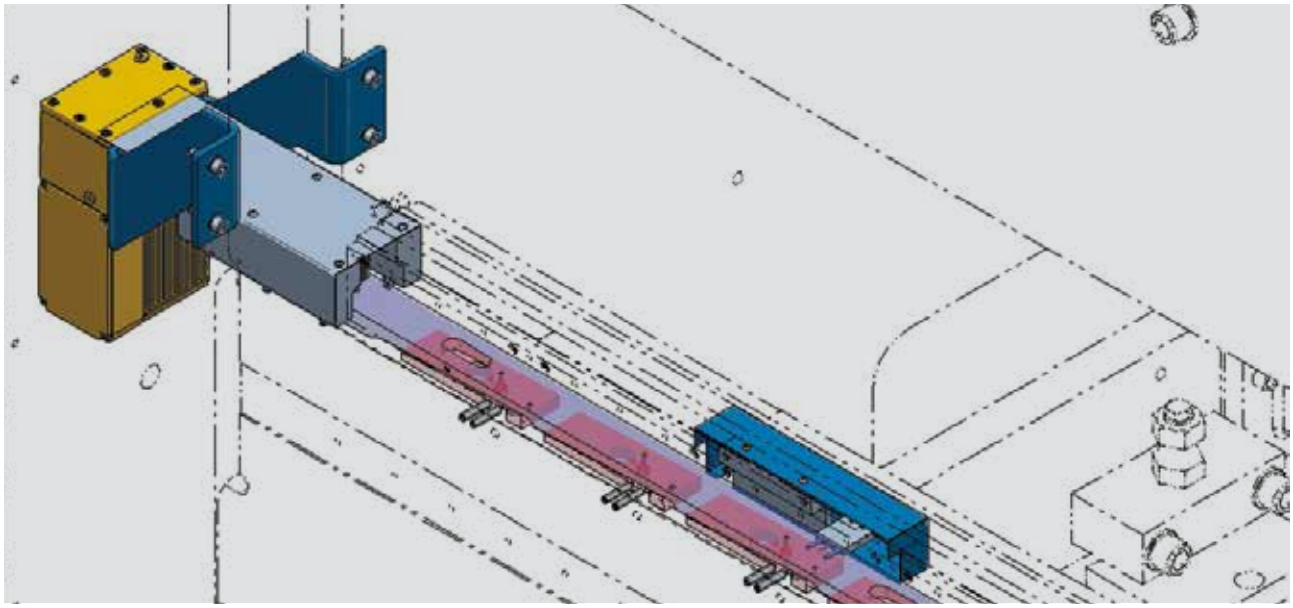
DIGITAL BEVEL GAUGE

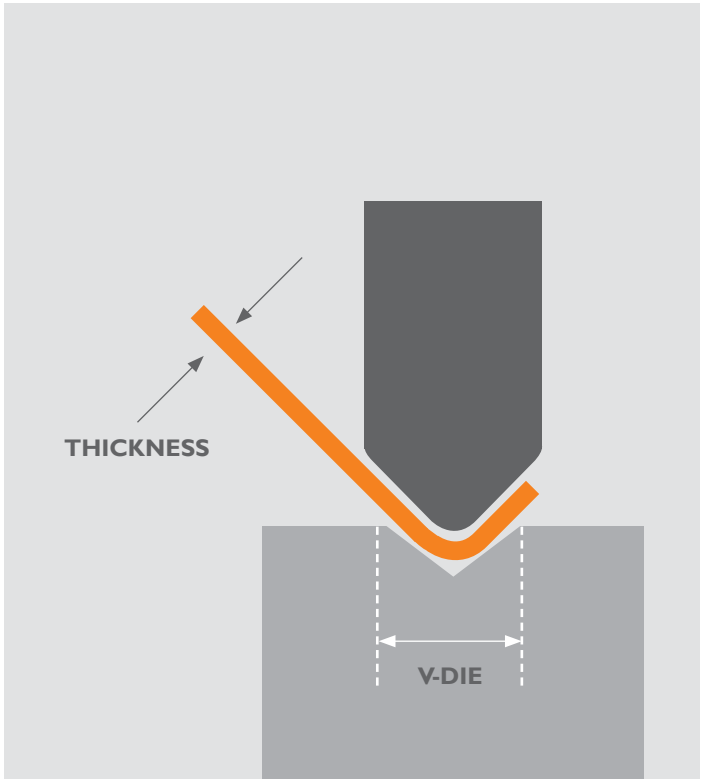
This device allows a direct measure of the bending angle by the operator.The Digital Bevel Gauge can directly (wireless connection) send the angle measure to the machine CNC for the automatic correction of bending parameters.

CNC Crowning

The CNC Crowning automatically compensates the deflection of the lower frame.
It regulates the wedges of the lower table automatically in order to create a perfect crowning for each single bend, according to the different lengths and bending forces.
It allows a constant bending angle all over the length even if the bending parameters are different from the common rule of using a V-die with a measure 8 times the thickness of the bent material.
More bending freedom to increase productivity and working ease.

The CNC Crownig is standard in eP-2040 press brakes to answer the needs of the most demanding working conditions, while it can be ordered as option for eP-1030 and eP-1336.





Headlines to enhance your worklife

The Prima Power range has a long tradition of continuous development, greater flexibility and operating economy through versatility, high automation level and low energy and maintenance cost. Also for a long time, the ecological aspects have been included among design criteria.
Green Means® translates into technology and expertise which meet the requirements of both productivity and more sustainable manufacturing.

THE PROFIT

Energy saving

- 50 % lower consumption than hydraulic brakes on an average

Productivity

- Thanks to the high dynamic electro mechanic drive system and "IRIS" safety 30% shorter cycle times on an average
- Quick change tooling system, sophisticated on- and off-line programming possibilities and intuitive touch screen machine interface guarantee short set-up times
- High reliability thanks to missing hydraulics

Part quality

- High repeating accuracy due to
- Rigid O-frame construction
- Servo electrically driven upper beam
- Absence of thermal influence of hydraulic oil
- Sophisticated tooling systems

Low maintenance cost

- Fewer critical components than in hydraulic machines

THE FOOTPRINT

Less energy and waste of material
= less CO2

No hydraulic oil
= no hazardous waste

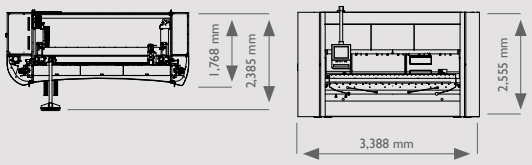
Easy programming and high accuracy
= less waste parts

Higher productivity
= less machinery for the same production

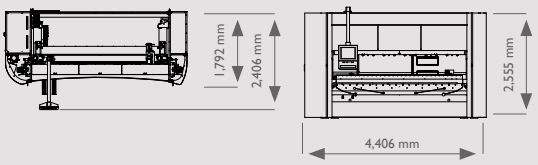
Technical specifications

	eP-0520	eP-1030	eP-1336	eP-2040	
Max. tonnage	550	1,050	1,350	2,000	(kn)
Distance between side frames	2,100	3,150	3,940	4,100	(mm)
Throat depht	O-frame	O-frame	O-frame	O-frame	
Daylight	600/650/700	600/650/700	600/650/700	600/650/700	(mm)
Y-AXIS					
Stroke	310	310	310	310	(mm)
Repeating accuracy	± 0.005	± 0.005	± 0.005	± 0.005	(mm)
Max working speed	10	10	10	10	(mm/s)
Approaching speed	180	110	90	100	(mm/s)
Return speed	180	110	90	100	(mm/s)
X-AXIS					
Speed	350	350	350	250	(mm/s)
Accuracy	± 0.03	± 0.03	± 0.03	± 0.03	(mm)
Stroke/max positioning dim.	560/1,000	560/1,000	560/1,000	560/1,000	(mm)
Stroke X1 (delta X)	± 100	± 100	± 100	± 100	(mm)
Z-AXIS					
Speed	2,000	2,000	2,000	1,500	(mm/s)
Accuracy	± 0.2	± 0.2	± 0.2	± 0.2	(mm)
Working area	200 to 1,770	200 to 2,880	200 to 3,440	150 to 3,850	(mm)
R-AXIS					
Speed	150	150	150	100	(mm/s)
Stroke	200	200	200	200	(mm)
Accuracy	± 0.1	± 0.1	± 0.1	± 0.1	(mm)

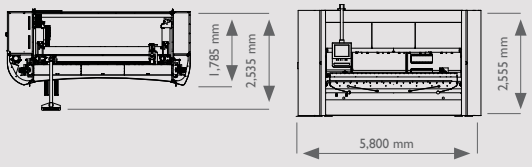
eP-0520



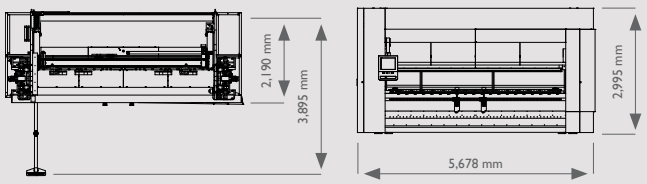
eP-1030



eP-1336



eP-2040



Prima Power Services: key to better productivity

We believe in long-term relationship with our partners, and we think that the real product we deliver to our customer is not just the machine itself, but the production capacity that our customer can achieve with our products and technology. The heart of Prima Power service is the common goal we share with our customer: start, maintain and develop the plant's production capacity and maximize it.
Our Service covers the entire life cycle of the system and technology and contributes to reaching one goal: maximize the productivity and the profit for our customers.

TELESERVICE

It is a service for the remote diagnostics and assistance. Skilled service engineers are available to operate remotely with the customer's CNC.

FIELD SERVICE

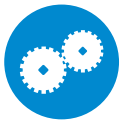
In addition to preventive maintenance, we offer high-quality corrective maintenance to guarantee fast recovery when there is a problem. With more than 12,000 machines installed in more than 80 countries, we are able to provide our customers the required assistance no matter where they are.

SERVICE AGREEMENTS

We continuously develop preventive maintenance plans for Prima Power machines. Maintenance visits are performed according to the task list specified for each machine type.

UPDATES & UPGRADES

The modularity of the product range often allows upgrading of a machine or manufacturing system even years after the original delivery.



SPARE PARTS

Original Prima Power spare parts to guarantee full performance and prolonged durability.

CONSULTATION

Wide range of consultation services on machine operation, programming and maintenance.

USED MACHINES

Possibility to purchase second-hand machines with Prima Power quality.

TRAINING

Training programs and updates for using our machines and software to their best, maximizing manufacturing capacity and quality.

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