



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

The Press | hP-Press

Hydraulic bending technology



Hydraulic technology

Prima Power hP-Press is the hydraulic response for high tonnage market. It is the perfect combination of force and versatility of the hydraulic technology and the combination of energy saving and sustainability of the ECO package. The Adaptive Crowning and the Reflex System make this press brake the most accurate machine in the today market. The hP can be connected in tandem, or integrated into automated lines or robotic cells.



PRODUCTIVITY

Highly productive thanks to reduced cycle times and higher process reliability.



FLEXIBILITY

Suitable for a wide range of different products.



REPEATABILITY

Consistent performance over time thanks to hydraulic technology.



MODULARITY

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



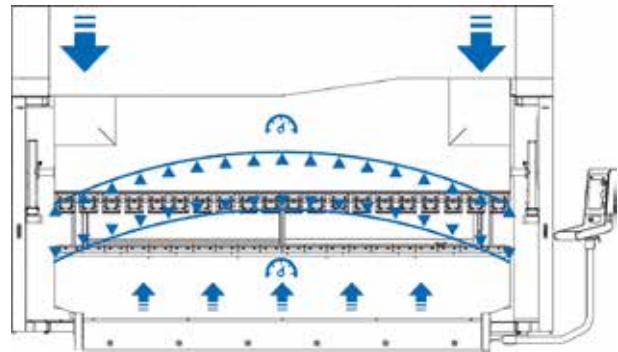
USER FRIENDLY

Easy to install, use and maintain.

Accuracy

ADAPTIVE CROWNING

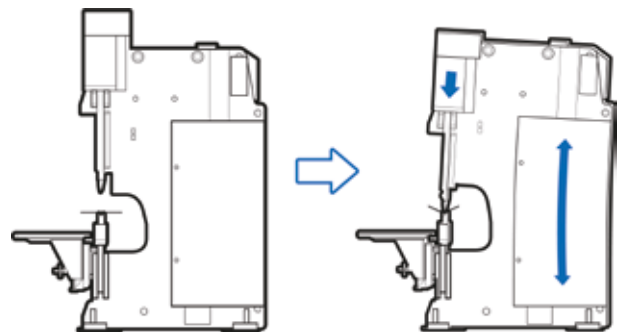
To avoid and compensate any deflection of the frame, a triple bottom table is supplied. This solution allows installing the Adaptive Crowning with the advantage to measure the ram deflection and to compensate in real time, in order to manage the material variability. Two precision sensors adapt in real time to the ram deformation: the first one detects the ram yield from the beginning of the bend, the CNC activates the cylinders in the lower ram until the reading of the second sensor is equal to the first one. This leads to the complete control at maximum precision and absolute repeatability, with any material.



REFLEX COMPENSATION SYSTEM

During the bending, the side frames are subject to strong forces that cause the deformation of the throat area. This effect is shown in the top beam moving away from the lower beam, compromising the accuracy of the control systems. Reflex controls the deformation of the side frames thanks to different machine sensors and its hydraulic circuit.

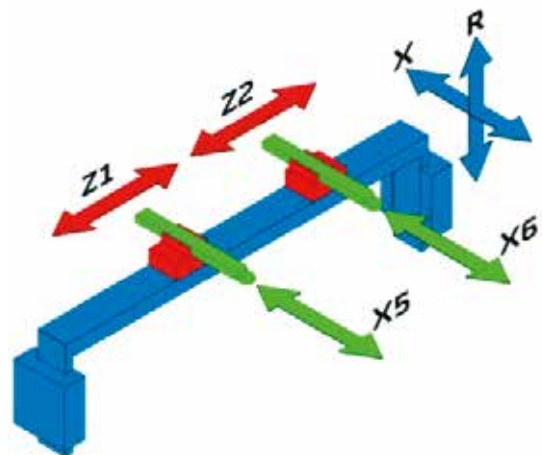
The position of the ram is always under control during the bending process to guarantee the repeatability of the angle, whatever the part length, thickness variations, part positioning and sheet characteristics.



BACK GAUGES

The standard BG2 can be equipped with CNC controlled for higher flexibility and productivity:

- Z_1 and Z_2 axis for side movement of the fingers (standard);
- relative X , X_1 movement to program a different depth position for one finger (this is required with some complicated parts with e.g. conic forms).



Standard concept

RAM AND FRAME

The frame is designed and sized using *Finite Element Analysis (FEA)*. The accuracy of the mechanical process is guaranteed by ISO9001 Certification and TÜV inspections on all the design and construction phases. The repeatability of the ram on the hP-series is ± 0.005 mm.



TOOL CLAMPING

The hP-Press brake is supplied with hydraulic clamping system and tool adapter for almost all market standards.



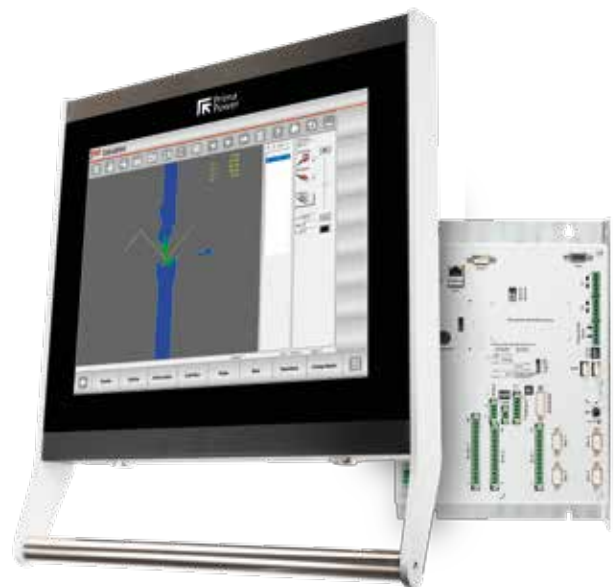
ESA 660W CNC

Esautomation S660 CNC can manage up to 18 axes and is formed of two elements:

1. a programming console with a multi touch screen and a traditional keypad fixed to a swiveling arm;
2. a CNC rack installed inside the electric cabinet.

Considerable features are:

- colour 19" touch screen with clear display for all of the information the operator need;
- classic Esautomation interface with Windows 7 operative system, multi touch screen function;
- rapid data input;
- possibility to configure axes, inputs/outputs and auxiliary functions according to the different needs;
- possibility to import programs from the most common CAD/CAM bending software;
- display of errors and warning messages on the console screen;
- 4 USB ports for easy software updating and data back-up;
- possibility of remote maintenance;
- CE marking.



Options for the angle control

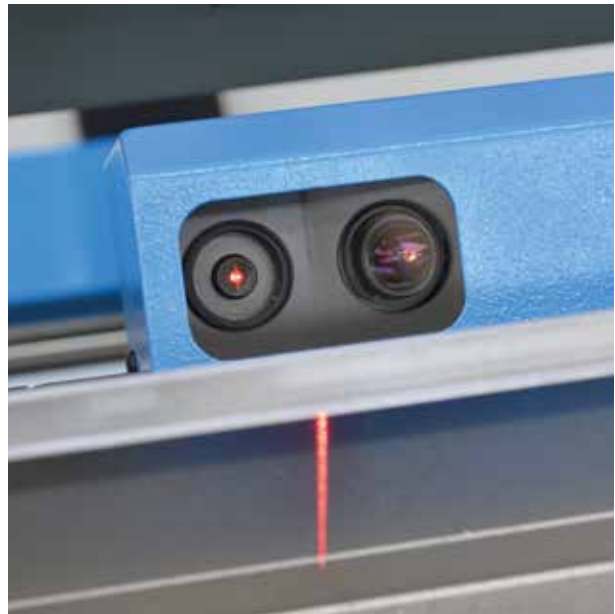
ANGLE CONTROL - LASER CHECK

Laser Check is a bend angle measurement and correction system that uses a laser beam. The device is made of a laser and a camera, which are installed on both sides of the bending line.

The detection is carried out as follows:

- a laser beam is projected on the sheet metal surface;
- the camera detects the laser beam;
- the angle between the beam and the axis of the camera determines the bend angle.

If it is not possible to remove the bending force completely, e.g. with big and heavy parts, spring back is inferred by measuring the C-frame through strain gauges. No die opening limitations, even with variable V-dies and possibility to be used with very high tonnages.



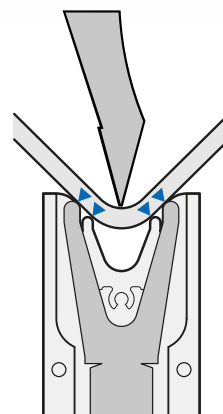
GPS4 - ANGLE DETECTION SYSTEM

Springback is a common phenomenon that usually appears when bending any type of material under any type of condition. To get a precise bend, an angle detection system is necessary for a perfect result without the need to perform preliminary tests or corrections. GPS4 detects and adjusts the angle directly during the bending process thanks to a double-fork sensor establishing 4 contact points on the material. The characteristics of the material have no impact on the system as the angle is measured and dynamically compared to the target value.

A great advantage of this system is to get the minimum flange equal to the theoretical minimum measure allowed by the V-die the operator is using in that working condition. You can work pieces with many reverse bends, mirrored surfaces with no problems due to tolerances and error accumulation.

Main advantages:

- possibility to work flanges that do not extend beyond the width of the V-die;
- maximum precision and repeatability without manual correction;
- real angle measurement;
- no obstructions around the working area;
- up to four working stations usable at the time;
- compatible with most commercially available dies.



Options for the productivity

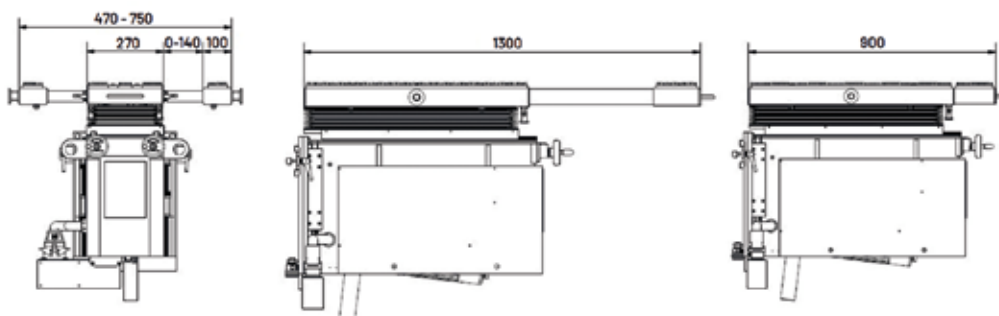
BENDING FOLLOWERS

The two sheet metal Bending Followers consist of a moving table installed in front of the press. They autonomously move in a controlled manner and are perfectly synchronised to follow the blank during the bending.

The use of the Bending Followers offers various benefits when bending:

- they support large or heavy metal sheets allowing a single operator to use the machine;
- they eliminate counter-bending by supporting the sheet when bending thinnest material;
- they reduce the operator risks when handling large and heavy metal sheets and helps controlling the cycle from a safe distance;
- they can be adapted to any opening and die height with a simple adjustment;
- they include a parking area outside normal working length.

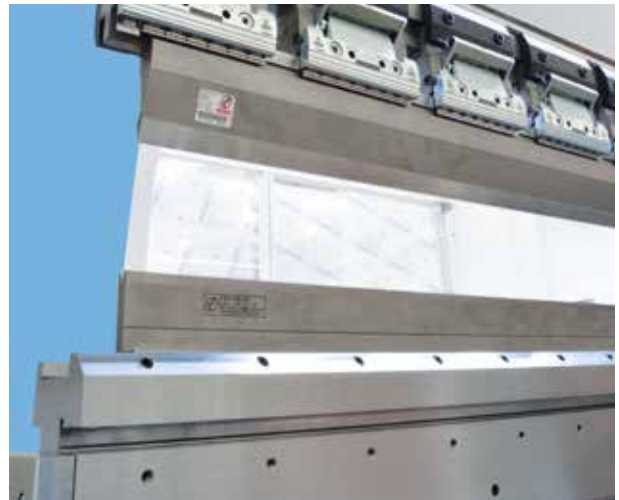
TECHNICAL SPECIFICATIONS	
Max. vertical stroke with die holder H=95 mm	130 mm
Max. vertical stroke with die holder H=145 mm	100 mm
Max. horizontal stroke	75 mm
Stand surface (min./max.)	472x873 mm (standard)
Angular stroke	0 ÷ 60 mm
Max. payload (with respect to the cente of the table)	180 kg



Options for the productivity

FLATTENING TABLE

The flattening Table is a special device that increases the productivity and allows easy operations. The flattening part of the table, which is hardened on working surfaces, is pneumatically opened by the CNC when required. This option avoids assembling and disassembling heavy and incorrect hemming tools. The clamping area may be personalised according to customer needs.



INDUSTRY 4.0

Industry 4.0 is nowadays a new challenge in Industry field for machinery builder. It is a use of a combination of technologies to achieve an industrial production completely automated and connected. One of main items of Industry 4.0 is to interconnect machines with Logistics and IT Systems of customers.

Prima Power gives a standards package for an automatic interconnection between machines and Logistics and IT Systems of customers:

- connection between customer ERP and machines to pass Production Orders (in some cases through Prima Power CAM);
- connection between machines data and customer ERP (data exchange in manufacturing systems).



Technical specifications

		2740	2760	3340
Max. bending force	(kn)	2,750	2,750	3,300
Max. bending length	(mm)	4,100	6,100	4,100
Distance between side frames	(mm)	3,600	5,600	3,600
Approach speed	(mm/s)	200	200	190
Work speed (1)	(mm/s)	0±10	0±10	0±8.5
Return speed				
STANDARD	(mm/s)	170	120	150
WITH ECO PACKAGE	(mm/s)	200	160	200
Ram positioning accuracy	(mm)	±0.01	±0.01	±0.01

WORKING AREA (WA) (2)

Throat (TH)	(mm)	400	400	400
Cylinder stroke (Y)	(mm)	300	300	300
Daylight (DL)	(mm)	500	500	500
Height of table from the floor (BH)	(mm)	975	1,100	975

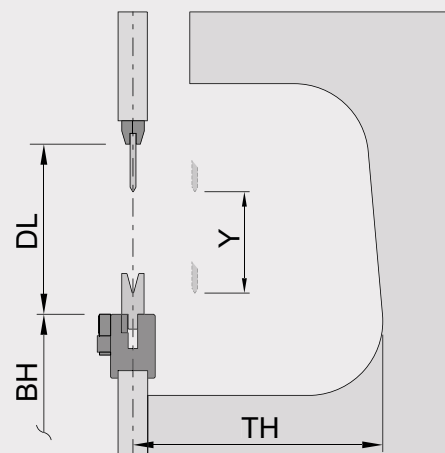
DIMENSIONS AND WEIGHT

Length (A)	(mm)	4,890	6,890	4,890
Width (B)	(mm)	2,100	2,100	2,100
Height (H) (3)	(mm)	3,400	3,750	3,500
Pit depth	(mm)	0	0	0
Approximate weight (4)	(t)	18.5	31	21
Oil tank capacity	(l)	350	350	370

ELECTRICAL AND PNEUMATIC CONNECTION

Nominal voltage	(V)	3~400	3~400	3~400
Nominal frequency	(Hz)	50	50	50
Main motor power	(kW)	30	30	30

- 1) In accordance with EN 12622:2009+A1:2013 for use with operator. Higher speed version available for automatic cycle only
- 2) Several combinations of Y, DL are available
- 3) Approximate height
- 4) Weight may vary depending on configuration and accessories installed

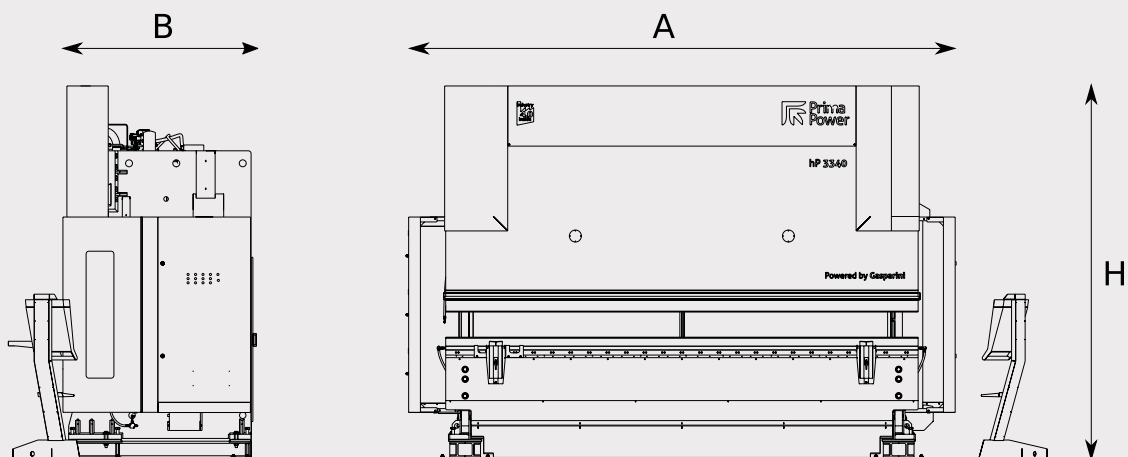


3360	4040	4060	5040	5060	6440	6460
3,300	4,000	4,000	5,000	5,000	6,400	6,400
6,100	4,100	6,100	4,300	6,300	4,300	6,300
5,600	3,600	5,600	3,600	5,600	3,600	5,600
190	120	120	100	100	100	100
0±8.5	0±8.5	0±8.5	0±8.5	0±8.5	0±8.5	0±8.5
100	105	70	105	70	105	70
120	125	105	125	105	125	105
±0.01	±0.01	±0.01	±0.01	±0.01	±0.01	±0.01

400	400	400	400	400	400	400
300	300	300	300	300	300	300
500	500	500	500	500	500	500
1,140	1,050	970	920	920	920	920

6,890	4,940	6,940	5,140	7,140	5,180	7,180
2,150	2,500	2,500	2,500	2,500	2,700	2,700
3,850	4,150	4,100	4,300	4,300	4,400	4,400
0	0	1,350	1,350	1,750	1,500	1,800
34	34	50	42	60	63	70
370	530	530	530	530	800	800

3~400	3~400	3~400	3~400	3~400	3~400	3~400
50	50	50	50	50	50	50
30	37	37	45	45	55	55



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 whole life cycle of the system and technology and contributes to reach one goal: maximize the productivity and the profit for our customers.



TELESERVICE

It is a service for the remote diagnostic 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 give our customer 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.

Contacts

Find your local Prima Power representative at
primapower.com



primapower.com

