Prima Power

The Bend
The Combi
The Laser
The Punch
The System
The Software

FastBend
Bending automation for productivity

Speed, flexibility, ease of operation

Prima Power's experience in applying servo-electric technology in automatic panel bending solutions has made it possible to revolutionize traditional manual bending.

FastBend replaces the press brake with the automatic bending technology which allows more bends for each side in an automatic sequence without any manual intervention including positive/negative inversion, smashing and radius bend; only the loading, rotation and unloading are manual. The result is quality, speed and elimination of mistakes.

With options ATC (automatic tool change) and barcode reader the machine makes setup automatically and activates a new part program. The clear and logical screen instructions facilitate and speed up operation further as well as support fast self learning.

FastBend requires no foundation and is very fast and easy to install. Average energy consumption is similar to a press brake and the machine reduces impact on the environment.

The machine can be operated in two different modes. In the **standard mode** the part is automatically fed during the bending sequence of every side. In the **press brake mode** the sheet is moved manually bend by bend, which allows the processing of very narrow profiles.

Some FastBend benefits

- A productive step from press brakes towards fully automatic bending
- Favourable energy savings 7 kWh, (- 64 % consumption and CO_2 emission compared with hydraulic solution)
- Very low maintenance cost (- 65 %)
- Elimination of skilled operator need, still maximum productivity
- Excellent bending accuracy and surface quality
- High repeatability
- Improvement in safety and working conditions without loss in production
- Lower tooling costs
- Compact layout
- Lower noise level - 68 dB(A)
- Less vibration - 66 %
- Easy and fast installation
- No foundation required

Fastbend production sequence

Scan the program information

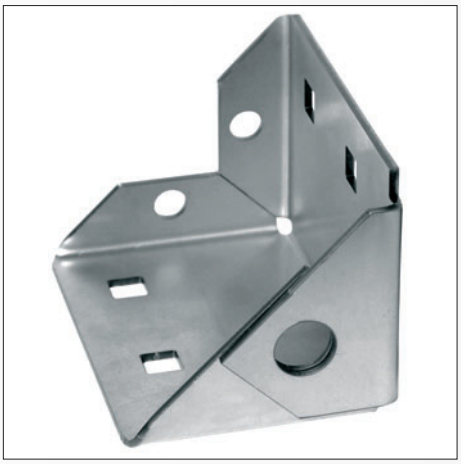
Load blank part

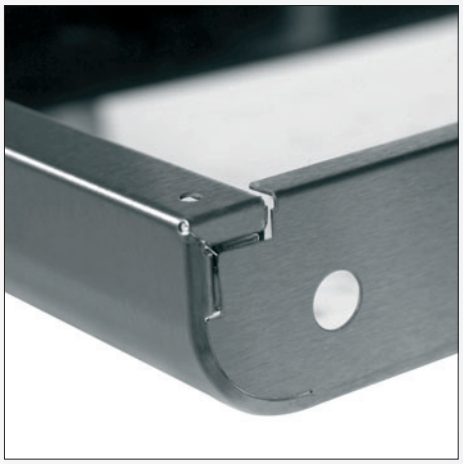
Rotate part by 180 degrees

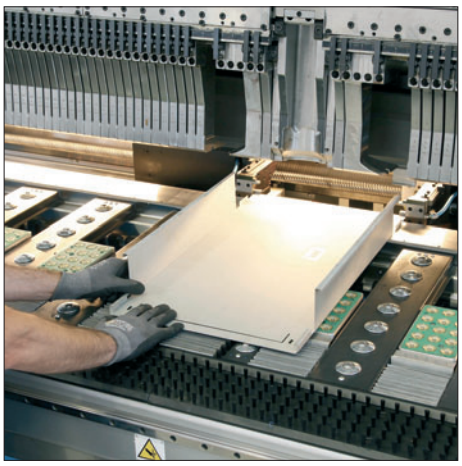
5 different parts in 5 minutes

Prima Power's FastBend is a flexible, servo-electric bending machine that will revolutionize the world of press brakes. The FastBend can bend 5 different parts with different thicknesses and alloys in just 5 minutes.

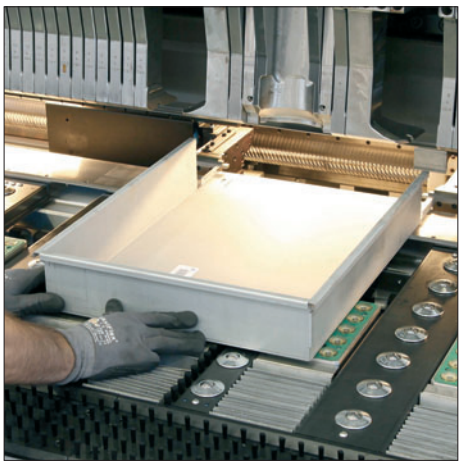
Automatic tool change eliminates set-up time.



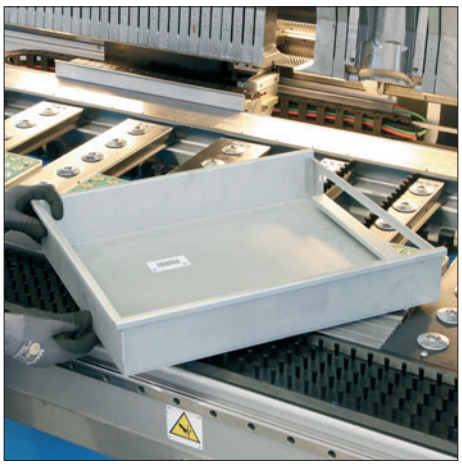




Rotate part by 90 degrees

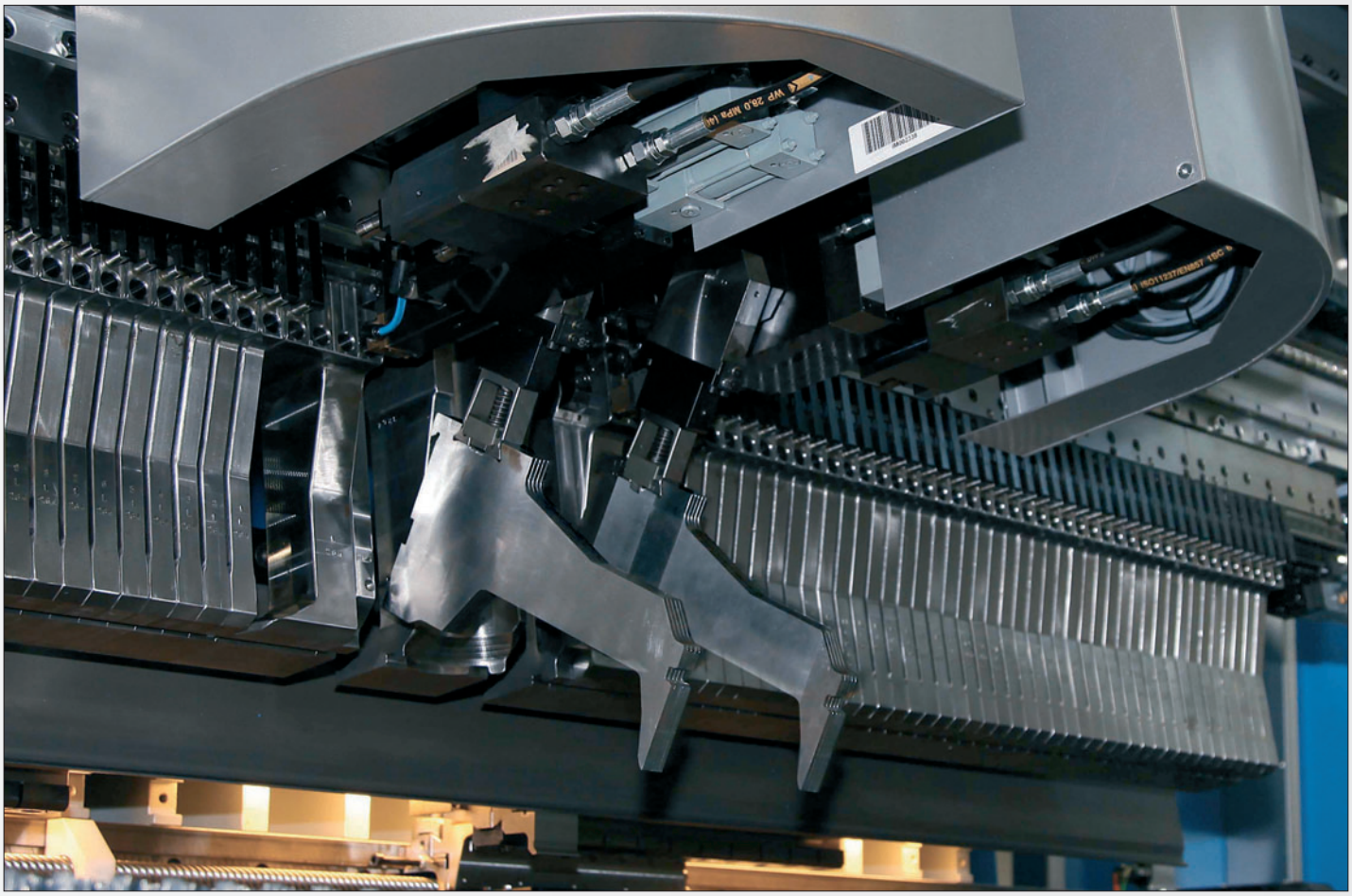


Rotate part by 180 degrees



Unload finished part

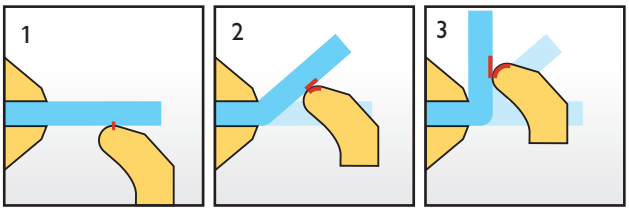
Automatic tool change eliminates setup time



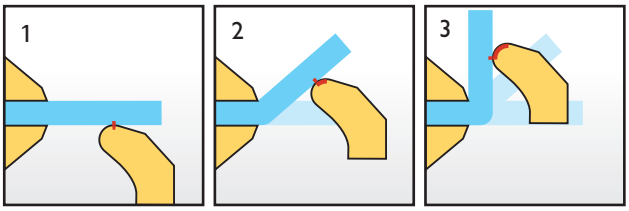
Bending principle

For optimum product quality two bending principles are available:

"Rolling mode" with a wider contact surface between the blade and the sheet but no relative friction



"Circular mode" where the contact point on the panel remains the same, while the one of the blade changes during the bending movement



Energy in efficient use

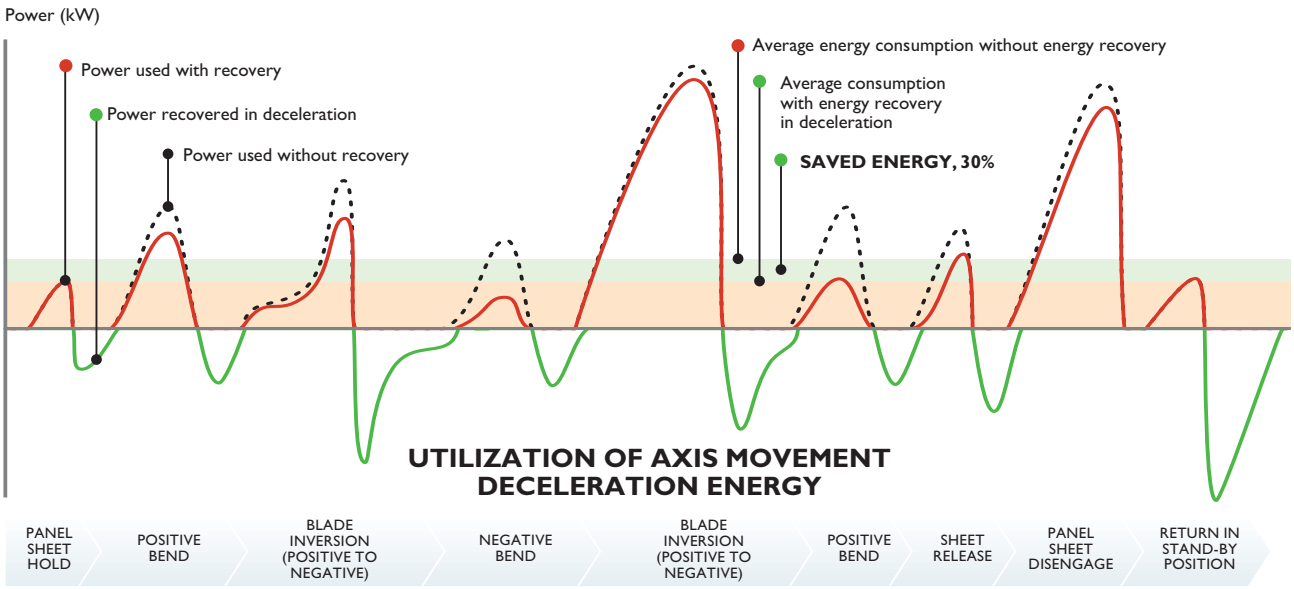
There are several reasons for which the servo-electric revolution is steadily gaining ground over traditional solutions in the construction of sheet metal working machines. Firstly, in many ways the servo simply performs technically better than other solutions. Yet, it is not for this performance alone that servo drive solutions are chosen more and more often by machine tool suppliers and their customers.

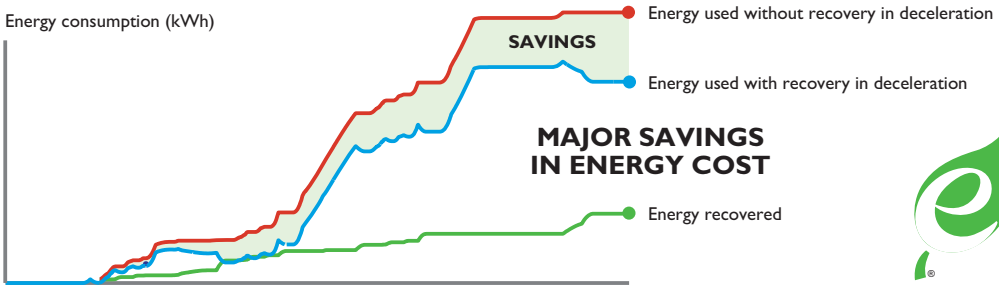
As energy prices are high, the inherently low energy consumption of servo-electric technology means concrete savings every hour, amounting to a considerable sum in the course of time. As for maintenance costs, compared with hydraulic machines they are far smaller. Further, decrease in the price level of even the most sophisticated servo motors and controls makes investment in new solutions also pricewise attractive.

Finally, since environmental considerations become more and more important, servo-electric technology is part of the corporate image of modern companies committed to ecologically sustainable operation.

Technical Data	FBe 4	FBe 5-2
Standard mode		
Max. bending length	2,250 mm	2,650 mm
Min. length between bends *		
With re-entering bend	350 mm	350 mm
Without re-entering bend	150 mm	150 mm
Min. width between bends *	140 mm	140 mm
Max. bend height type	200 mm	200 mm
Sheet length (min.… max.)	160 … 2,850 mm	160 … 3,000 mm
Sheet width (min.… max.)	100 … 1,700 mm	100 … 1,700 mm
Max. re-entering bend *	55 mm	55 mm
Bending force	32 t	30 t
Sheet holding force	52 t	52 t
Max. material thickness		
Steel, 410 N/mm²	2.5 mm (3.0 mm for max. 1,800 mm length)	2.0 mm
Stainless steel, 680 N/mm²	1.8 mm (2.0 mm for max. 1,800 mm length)	1.5 mm
Aluminium, 265 N/mm²	3.5 mm (4.0 mm for max. 1,800 mm length)	3.0 mm
Min. material thickness	0.5 mm	0.5 mm
Min. external radius	1.5 … 2 x sheet thickness	1.5 … 2 x sheet thickness
Bending angle	-130° … +130°	-130° … +130°
Max. number of bends per side	Unlimited	Unlimited
Numerical Control	Siemens Sinumerik 840D Solution Line	Siemens Sinumerik 840D Solution Line
Average power consumption	6 kWh	6.5 kWh
Voltage	400 V (50/60 Hz)	400 V (50/60 Hz)
PressBrake operation mode	See the drawing on the right	
Min. width between bends with AUT (A)	45 mm	45 mm
Max. bend height		
First bend (B)	45 mm	45 mm
Second bend (C)	120 mm	127 mm

Energy recovery in Prima Power bending automation



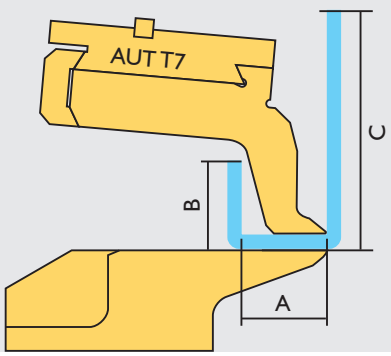


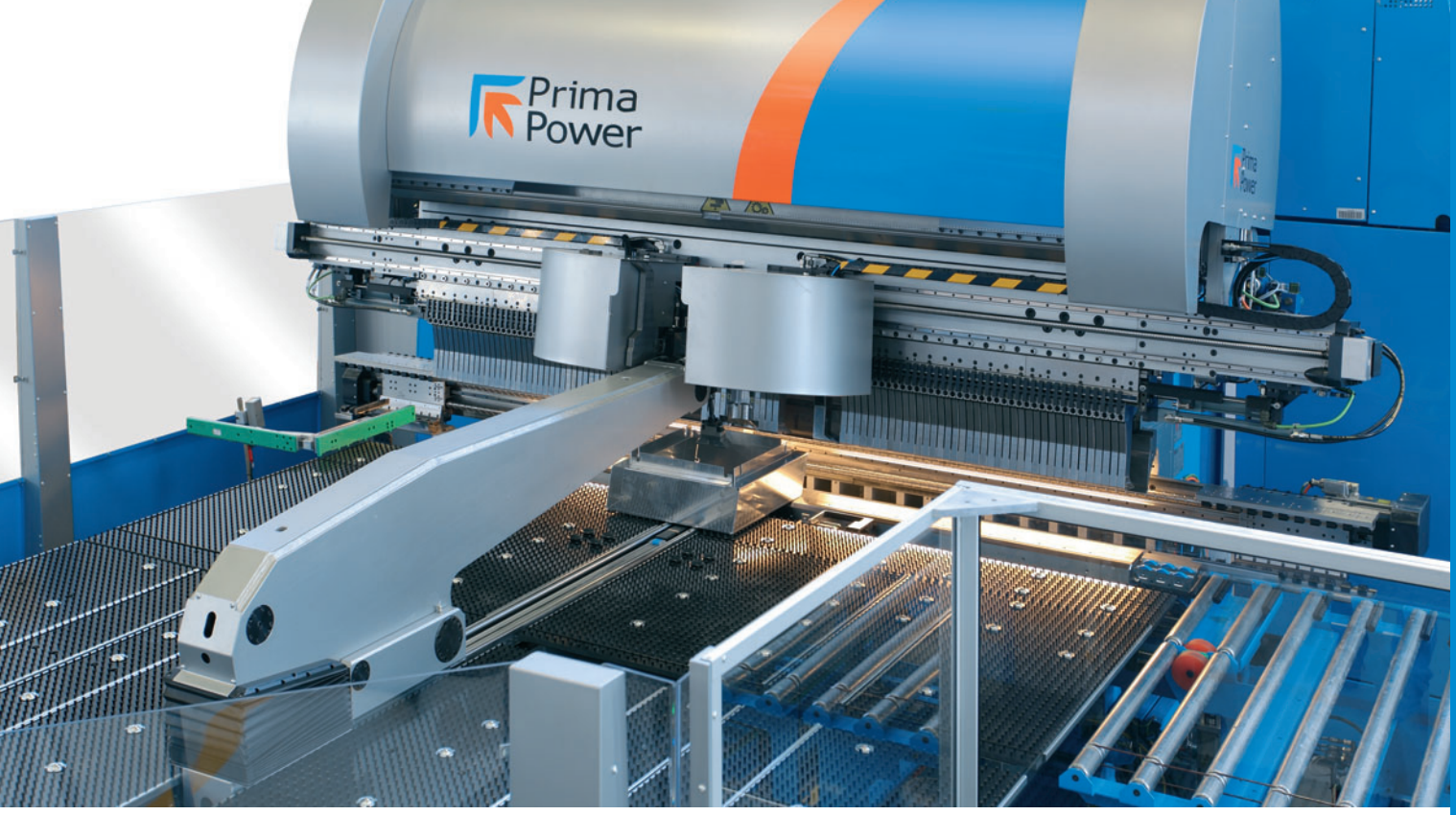
Energy in Efficient Use®

FBe 5-3	FBe 6
2,650 mm	3,350 mm
350 mm	350 mm
150 mm	150 mm
140 mm	140 mm
200 mm	200 mm
160 … 3,000 mm	160 … 3,800 mm
100 … 1,700 mm	100 … 1,700 mm
55 mm	55 mm
41 t	41 t
90 t	100 t
3.2 mm	3.0 mm (3.2 mm for max. 3,000 mm length)
2.2 mm	2.0 mm (2.2 mm for max. 3,000 mm length)
4.0 mm	3.5 mm (4.0 mm for max. 3,000 mm length)
0.5 mm	0.5 mm
1.5 … 2 x sheet thickness	1.5 … 2 x sheet thickness
-130° … +130°	-130° … +130°
Unlimited	Unlimited
Siemens Sinumerik 840D Solution Line	Siemens Sinumerik 840D Solution Line
7 kWh	7.5 kWh
400 V (50/60 Hz)	400 V (50/60 Hz)
45 mm	45 mm
45 mm	45 mm
127 mm	135 mm

* These values can not coexist in a single construction

Press brake operation mode, bending dimensions





Prima Power

The Bend
The Combi
The Laser
The Punch
The System
The Software

Prima Power BCe
Bending centres

New automatic and flexible bending process with semi-automatic material handling by Prima Power

Prima Power's BCe series bending centres offer the well-known express bender benefits – precision, flexibility and high surface quality in a semi-automatic process. Only loading is performed manually – an easy task due to user-friendly design.

BCe series provides productive capacity manufacturing of single pieces and small batches as well for serial production. It enlarges bending capability to the applications that were not possible without it, allowing production of components which are fully perforated, have large or high forms, or need large openings.

Wide option range

The BCe bending centre can be customized using the wide range of Prima Power options such as automatic tool change, additional upper tool, additional short blade, etc.

Some BCe benefits:

- Favourable energy savings, (- 64 % consumption and CO_2 emission compared with hydraulic solution)
- Excellent bending accuracy and surface quality with high repeatability
- Higher productivity – loading operation is simultaneous with unloading – shorter cycle time
- Elimination of skilled operator need,still maximum productivity
- Full safety for the operator – the parts to be processed are transferred automatically from an external table
- Reliable, accurate operation – automatic clamp feeder moves the part to be bent from the table to the manipulator
- Higher operator efficiency – automatic pusher conveyor (LBN) unloads bent parts to the unloading table with automatic buffer function
- Fully automatic set-up between different components (with ATC)
- With automatic tool change ATC and bar code reader the machine makes automatic setup and activates new part program
- Very low maintenance cost (- 65%)
- Compact layout
- Higher productivity and faster programming compared with manual folding machines and robotized press brake

Technical Data	BCe4	BCe5-2	BCe5-3
Max. bending length	2,250 mm	2,650 mm	2,650 mm
Min. length between bends *1	350 mm	350 mm	350 mm
Min. width between bends *1	160 mm	160 mm	160 mm
Sheet length (min.… max.)	370 … 2,850 mm	370 … 2,850 mm	370 … 2,850 mm
Sheet width (min.… max.)	180 … 1,500 mm	180 … 1,500 mm	180 … 1,500 mm
Max. bend height type	200 mm	200 mm	200 mm
Max. re-entering bend *1	55 mm	55 mm	55 mm
Max. panel diagonal	3,000 mm	3,000 mm	3,000 mm
Bending force	32 t	30 t	41 t
Sheet holding force	52 t	52 t	90 t
Max. material thickness			
Steel, 410 N/mm²	2.5 mm (3.0 mm for max. 1,800 mm length)	2.0 mm	3.2 mm
Stainless steel, 600 N/mm²	1.8 mm (2.0 mm for max. 1,800 mm length)	1.5 mm	2.2 mm
Aluminium, 260 N/mm²	3.5 mm (4.0 mm for max. 1,800 mm length)	3.0 mm	4.0 mm
Min. material thickness	0.5 mm	0.5 mm	0.5 mm
Min. external radius	1.5 … 2 x sheet thickness	1.5 … 2 x sheet thickness	1.5 … 2 x sheet thickness
Bending angle	-130° … +130°	-130° … +130°	-130° … +130°
Max. number of bends per side	Unlimited	Unlimited	Unlimited
Numerical Control	Siemens Sinumerik 840D Solution Line	Siemens Sinumerik 840D Solution Line	Siemens Sinumerik 840D Solution Line
Average power consumption *2	9.5 kWh	9.5 kWh	13.5 kWh
Voltage	400 v (50/60 Hz)	400 v (50/60 Hz)	400 v (50/60 Hz)

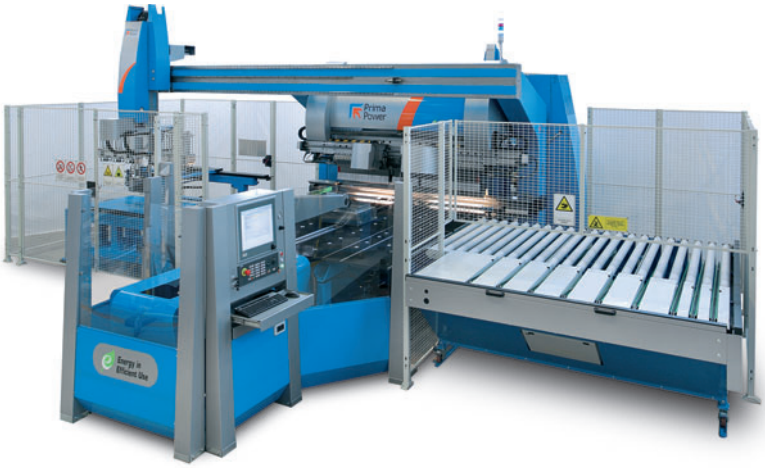
Notes: *1 All values cannot coexist in single part construction *2 Based on average piece dimensions and average batch production

Prima Power

The Bend
The Combi
The Laser
The Punch
The System
The Software

Prima Power EBe
– a new solution for high-quality bending

Servo-electric technology for better bending and improved operation economy



Well known for advanced bending technology and innovative servo-electric applications, Prima Power has combined them in the new automatic bending cell EBe. EBe automates the bending process of high-quality sheet metal components.

The new EBe, featuring Prima Power's E-technology, offers outstanding benefits through

- flexibility for small series production
- excellent bending quality as required by e.g. design products
- low overall operation cost due to
  - low energy consumption (- 64 %)
  - low oil maintenance cost
  - very fast operation

Compared with all-hydraulic solutions, truly remarkable savings can be made in your component manufacturing.

New industrial design – easy integration

Prima Power EBe has also been designed for the modern manufacturing facility, with carefully planned ergonomics through integrated safety covers.

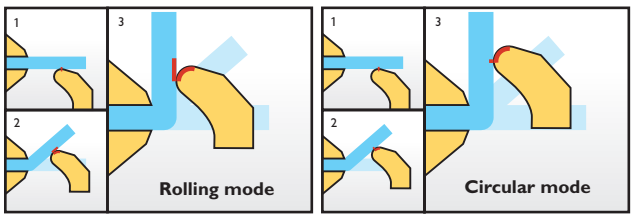
Servo operated blade movements

The new construction features actuation of the bending blade movements (vertical and horizontal) by servo NC-axes instead of hydraulic cylinders. The upper tool movements are made also by another NC servo-axis.

Prima Power EBe provides the high bending quality required in demanding applications such as component production for design products. This is achieved through precise control of bending axes, fast and smooth bending, open programmability, and the fact that the construction is immune to variation in thermal conditions.

Two operating modes

For optimum product quality, a new bending principle is now available. With this new principle, when the "rolling mode" is used, there is a wider contact surface between the blade and the sheet but no relative friction. Alternatively, when using a standard "circular mode", the contact point remains constant whereas the contacting point of the blade changes during the bending movement.



Other features

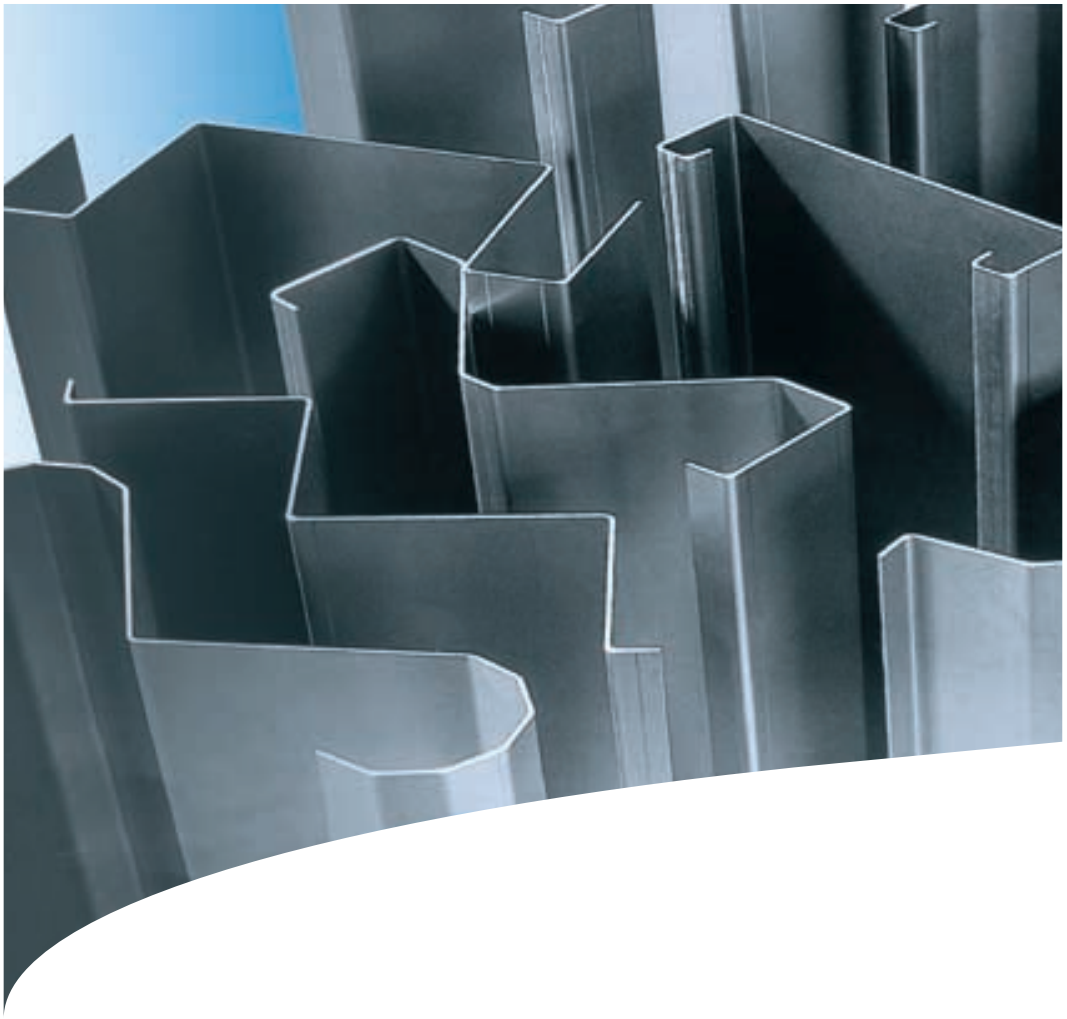
- Sophisticated software, including graphic parametric programming, and simulation at operator interface
- Off-line programming
- Reduced vibration
- Very low noise level
- Configurability with all Prima Power bending options
- Upper pressure force automatically adjusted according to material thickness and length
- Automatic recording of bending parameters in material data base
- Environmentally friendly Green Means® solution

Technical Data	EBe 4	EBe 5-2	EBe 5-3	EBe 6
Max. bending length	2,250 mm	2,650 mm	2,650 mm	3,350 mm
Min. length between bends *	350 mm	350 mm	350 mm	350 mm
Min. width between bends *	160 mm	160 mm	160 mm	160 mm
Sheet length (min. … max.)	370 … 2,850 mm	370 … 2,850 mm	370 … 2,850 mm	370 … 3,800 mm
Sheet width (min. … max.)	180 … 1,500 mm	180 … 1,500 mm	180 … 1,500 mm	180 … 1700 mm
Max. bend height type	200 mm	200 mm	200 mm	200 mm
Max. re-entering bend *	55 mm	55 mm	55 mm	55 mm
Max. panel diagonal	3,000 mm	3,000 mm	3,000 mm	3,950 mm
Bending force	32 t	30 t	41 t	41 t
Sheet holding force	52 t	52 t	90 t	100 t
Max. material thickness				
Steel, 410 N/mm²	2.5 mm	2.0 mm	3.2 mm	3.0 mm
	3.0 mm for max. 1,800 mm length			3.2 mm for max. 3,000 mm length
Stainless steel, 680 N/mm²	1.8 mm	1.5 mm	2.2 mm	2.0 mm
	2.0 mm for max. 1,800 mm length			2.2 mm for max. 3,000 mm length
Aluminium, 265 N/mm²	3.5 mm	3.0 mm	4.0 mm	3.5 mm
	4.0 mm for max. 1,800 mm length			4.0 mm for max. 3,000 mm length
Min. material thickness	0.5 mm	0.5 mm	0.5 mm	0.5 mm
Min. external radius	1.5 … 2 x sheet thickness	1.5 … 2 x sheet thickness	1.5 … 2 x sheet thickness	1.5 … 2 x sheet thickness
Bending angle	-130° … +130°	-130° … +130°	-130° … +130°	-130° … +130°
Max. number of bends per side	Unlimited	Unlimited	Unlimited	Unlimited
Numerical Control	Siemens Sinumerik 840D Solution Line	Siemens Sinumerik 840D Solution Line	Siemens Sinumerik 840D Solution Line	Siemens Sinumerik 840D Solution Line
Average power consumption	9.5 kWh	9.5 kWh	13.5 kWh	13.5 kWh
Voltage	400 v (50/60 Hz)	400 v (50/60 Hz)	400 v (50/60 Hz)	400 v (50/60 Hz)

(Note: * All values cannot coexist in single part construction)

FINN-POWER

- PUNCHING
- LASER CUTTING
- **BENDING**
- INTEGRATED PUNCHING & SHEARING
- INTEGRATED PUNCHING & LASER CUTTING
- FLEXIBLE MANUFACTURING SYSTEMS



X SERIES
PRESS BRAKE

TRUE FINN-POWER MACHINE VALUES

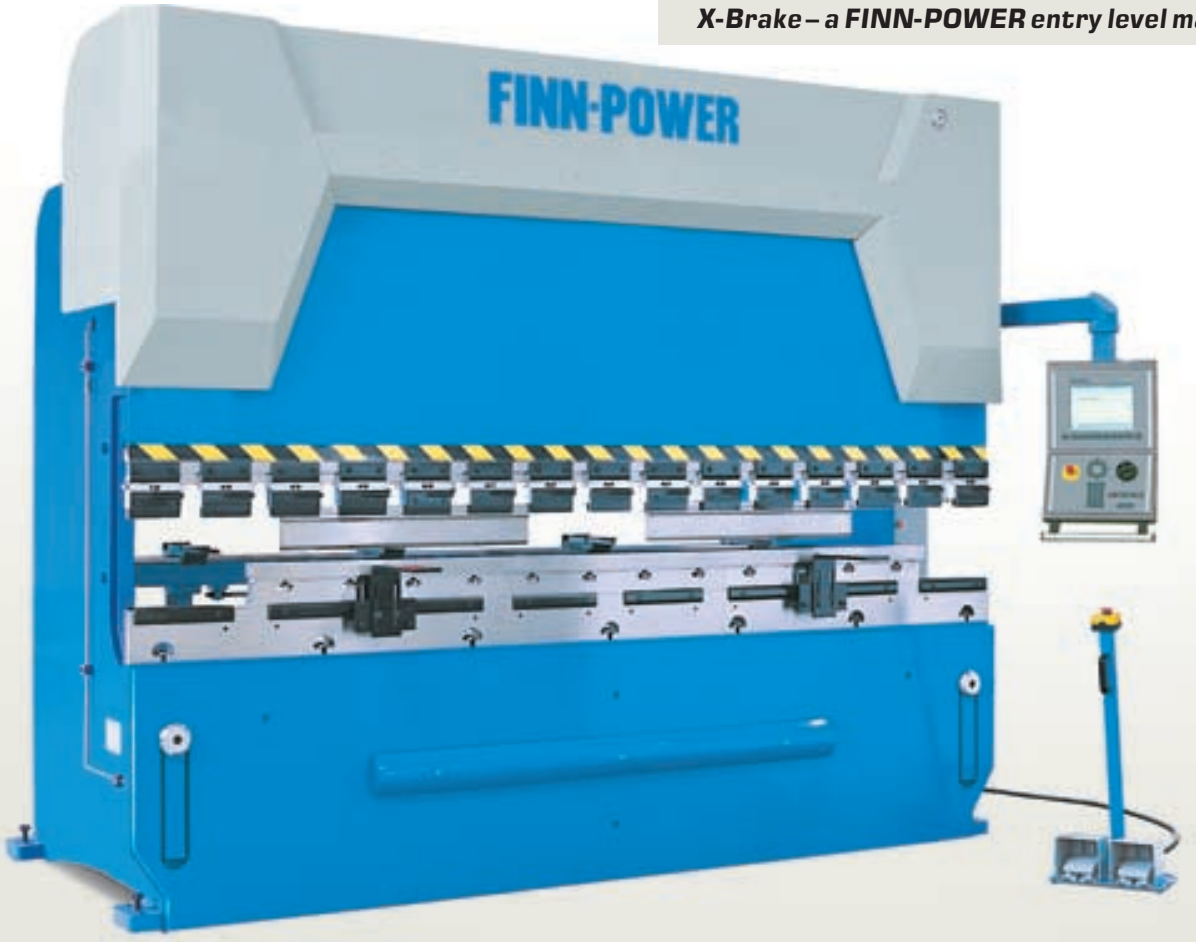
X-Brake presents FINN-POWER's entry level bending technology. Even though the machine is the most economic one in our wide product range it features all the fundamental basic values every Finn-Power machine is famous of – Productivity. Innovation. Reliability.

X-Brake is a servo hydraulic synchronized CNC press brake controlled by Delem 65W. Ease of use and precision are key words to describe working with x-Brake.

X-Brake has been designed for demanding production work. The frame is a rigid welded construction with an additional frame for position measuring. Stress relief has been performed by vibration method. FEM calculated deflection of the upper beam is compensated by a reliable hydraulic crowning system.

High precision servo hydraulic controlled ram movement and robust back gauge solutions guarantee work piece quality day after day, year after year.

X-Brake – a FINN-POWER entry level machine



FINN-POWER X-BRAKE RANGE	X50-2000	X100-3200	X160-3200	X160-4000	X250-320	X250-4000
Press tonnage	50 t	100 t	160 t	160 t	250 t	250 t
Total working length	2,000 mm	3,200 mm	3,200 mm	4,000 mm	3,200 mm	4,000 mm
Back gauge BG2 (X, R -axis)	std	std	std	std	std	std
Back gauge BG4 (xX, R, Z1 & Z2- axis)	x	x	x	x	x	x
Hydraulic crowning	–	std	std	std	std	std
European style clamping	std	std	std	std	std	std
Quick clamping (push-pull handle) intermediates	std	std	std	std	std	std
Rotate handle intermediates	x	x	x	x	x	x
Oil and E-Cabinet cooling	x	x	x	x	x	x
Delem DA 65W control	std	std	std	std	std	std

Valid from 01.12.2005, x available, – not available, std standard

Quality starts with the choice of components

Based on decades long experience in machine tool building FINN-POWER has gathered a deep and valuable knowledge in understanding and testing component quality. X-Brake makes no exception in FINN-POWER's policy of mounting only adequate, high quality components.

All the machining and assembly work, as well as testing, is carried out by skilled professionals.

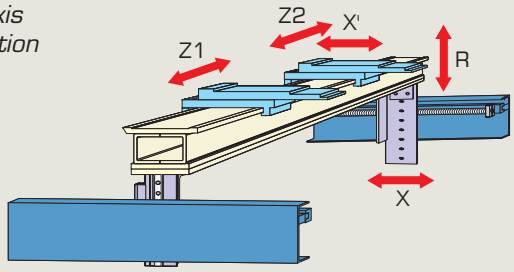
FINN-POWER uses only high quality components. To mention a few examples:

Control system
DELEM, Holland
Proportional valves
HOERBIGER, Germany
High speed ball screws and linear guides
REXROTH-STAR, Germany
AC Servo motors and servo motor drivers
SANYO DENKI, Japan
Digital Readout
HEIDENHAIN, Germany
O-ring, Dust-ring
BUSASK+LUYKEN, Germany
Import oil pipes
PARKER, USA

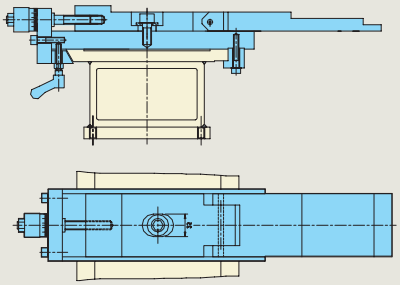
RIGID BACK GAUGE SOLUTIONS

Standard X-Brake configuration includes a two-axis Back Gauge. Both axes, X and R are CNC controlled. Two hinging fingers with quick clamping bars can be manually moved along the bending length. For easy alignment they are individually micro adjustable. A third and a fourth finger are available optionally.

BG axis definition



BG fingers with 4 stops and micro adjustment



For higher productivity and flexibility the X-Brake can be equipped with a four-axis BG4. In addition to the standard X- and R-axis also Z1 and Z2 axis are individually programmable. Setup times are thus reduced remarkably in small series production. BG4 is a valuable option also when several short tool set-ups are required to finish a work piece.

Standard BG2

Optional 3rd and 4th finger

Below: Optional BG4

STATE OF THE ART HYDRAULIC SYSTEM

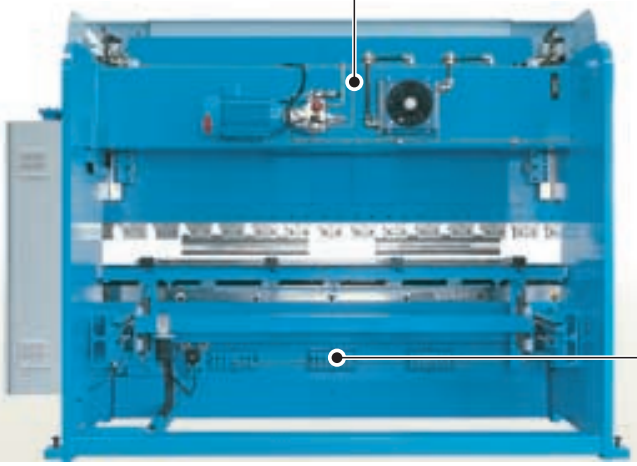
Servo hydraulic ram drive

The smooth and precise functioning of the ram is realized by applying servo hydraulic drive system. Both cylinders are equipped with separate hydraulic blocks and servo valves. The parallelism of the upper tool results as a sum of the sophisticated CNC control, servo hydraulic drive system and high precision position measurement.

High precision Heidenhein linear scales

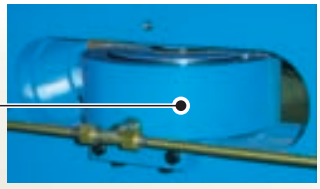
Hoerbiger servo hydraulics

Hydraulics with optional cooler



Hydraulic CNC crowning

The lower beam features a sandwich construction and a CNC-controlled hydraulic crowning from 100t upwards. This reliable system compensates the deformation of the upper beam under stress thus resulting in fast setup times and accurate bending angles.



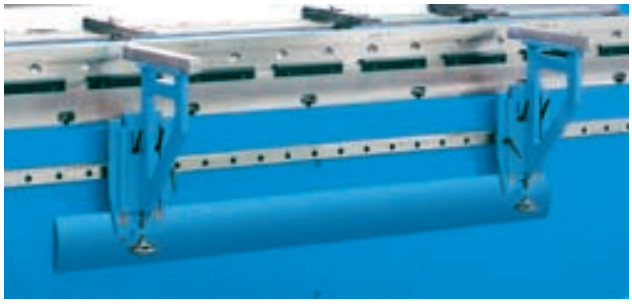
WORKING WITH X BRAKE

The standard configuration of X-Brake offers a productive and ergonomic press brake to work with.

Front supports

X-Brake has as standard two front supports fixed by screws. Movable front supports mounted on linear guide are optional. Both versions are adjustable in height.

Standard front support



Movable front support as option

Intermediates as standard

X-Brake mounts European style tooling system combined with stroke lengths and throat dimensions that enable the utilization of versatile tooling and thus offer a perfect match for the needs of flexible production. The upper tool clamping includes intermediates with adjustment key, safety adaptation and a push-bull fast clamping bar.

The lower tool clamping is based on a 60 mm wide table designed for the use of single V-dies or 4-V dies. In addition a adaption bar and t-slot adapter belong to the standard configuration so that self centering 2-V dies can be used as well.

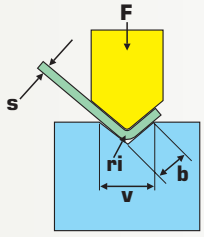
The hydraulic CNC crowning system in the lower frame contributes significantly to ease of use of X-Brake.

On request FINN-POWER can offer high quality standard tool packages, designed for different kinds of application needs.

Air Bending Tonnage Chart

v mm	4	6	8	10	12	16	20	25	32	40	50	63	80	100	125	160	200	250
b mm	3	4	5.5	7	8.5	11	14	18	22	28	35	45	55	71	89	113	140	175
ri mm	0.6	1	1.3	1.6	2	2.6	3.3	4	5	6.5	8	10	13	16	20	26	33	41
s mm																		
0.5	4	3																
0.8	10	7	5	4														
1		10	8	6	5													
1.2		14	11	9	7	6												
1.5			17	13	11	9	7											
2				24	20	15	12	10										
2.5					31	23	19	15	12									
3						34	27	21	17	13								
4							48	38	30	24	19							
5								60	47	37	30	24						
6									67	54	43	34	27					
8										95	76	61	48	38				
10											119	95	75	60	48			
12												136	107	86	69	54		
15													168	134	107	84	67	
20														239	191	149	119	95

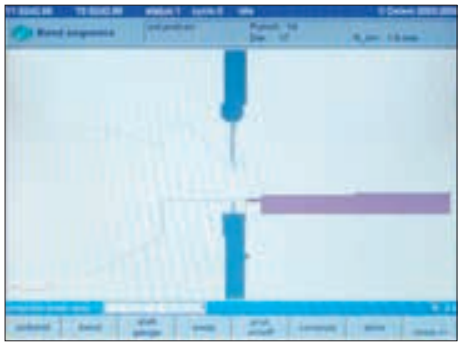
= corresponding tonnage for optimum v-opening
Rm= 42 kN/cm²



F = tons per metre of workpiece
s = material thickness
ri = inside radius of formed part
v = V-die opening
b = minimum flange

HIGH PERFORMANCE CNC CONTROL

Delem controls are world wide known for their reliability and ease of use. X-Brake is equipped with a sophisticated Windows® Based Delem 65W with 2D graphical user interface.



User interface with 2D graphical programming

DELEM DA65W CNC control

- Y Axis: Control the movement of the ram (Y1, Y2)
- X Axis: Control the forward and backward movement of the back gauge (X).
- R Axis: Control the upward and downward movement of the back gauge (R).
- Z Axis: Control of the sideways movement of the back gauge fingers (Z1&Z2)
- H Axis: Hydraulic crowning compensation (H).
- 10.4'' TFT high resolution color LCD display 640 x 480 pixels, 16 bit, 2D Graphical

Programming

- 2D Windows® OS, Operator selectable languages
- Soft key selection, menu driven of fast key selection
- Bending steps programming: direct angle programming data input
- Automatic bending sequence and positioning of all axes (including back gauge retraction)
- Automatic blank length calculation (DIN 6935) and automatic tonnage calculation
- Automatic calculation of the angle correction
- Program parameters of every bending sequence
- Length of the plate to be bent (Tonnage calculation)
- Back gauge retraction
- Position of the top dead centre of the ram
- The change point of the ram from fast approach speed to work speed
- Data storage: 64 Mb memory capacity
- 99 programs can be stored in the control, each program can contain 99 steps and each step can be repeated 99 times
- 198 kinds of tooling parameters 99 kinds of punches, 99 kinds of dies
- Machine time and piece counter

FINN-POWER IN BRIEF

***FINN-POWER Oy** and its worldwide network of subsidiaries and representatives specialize in advanced sheet metal working technology. The company was established in 1969.*

*Following the introduction of its first hydraulic turret punch press in 1983 **FINN-POWER** has developed a modular product range for punching, laser cutting and bending, for solutions integrating right angle shearing and laser cutting with punching, and for automation of the entire material flow of your sheet metal working process.*

Prima Power

The Bend
The Combi
The Laser
The Punch
The System
The Software

Servo-hydraulic bending technology by Prima Power

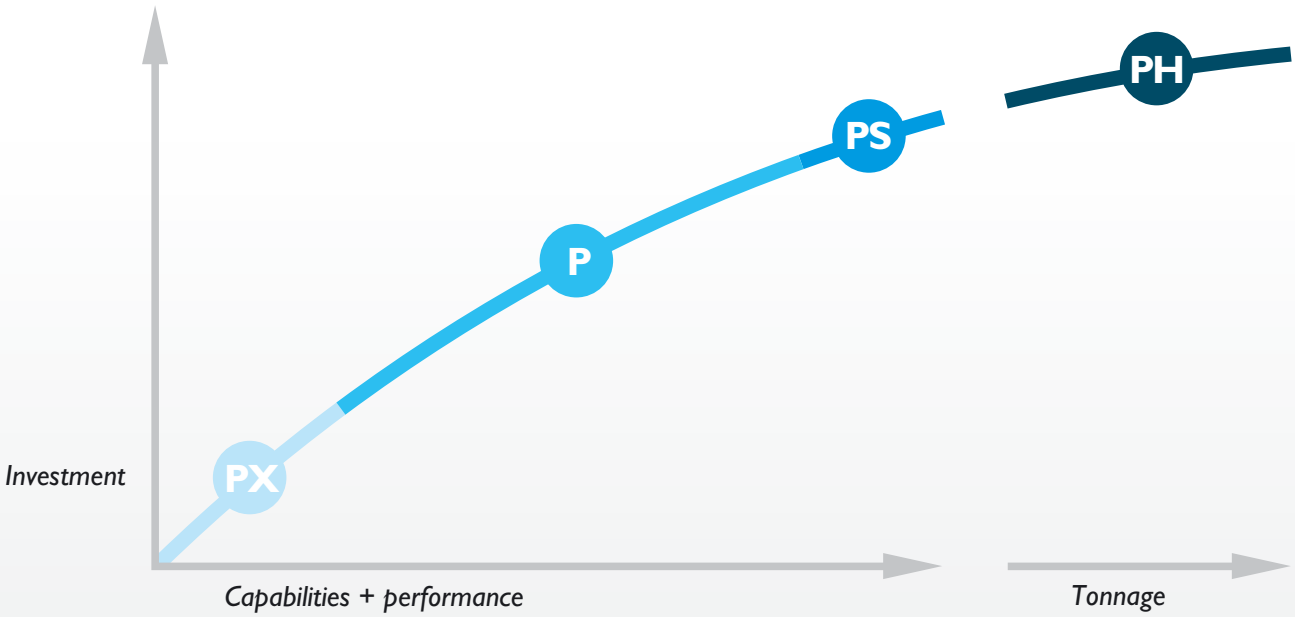
Servo-hydraulic Prima Power bending technology

Prima Power is recognized as a premier builder of fabricating equipment worldwide and its new P series servo-hydraulic press brakes makes no exception to this tradition.

To meet the most varied bending application and production requirements the P series comes in four different versions. The right choice between PX, P, PS and PH versions guarantees the optimum combination of performance and investment cost for any production task.

P series assembly lines

A common feature to all P series press brakes is a modular design platform, decades of experience, state-of-the-art machine construction and the latest in control technology, as well as 100 % design and manufacturing in Europe.



PX

THE BASIC SOLUTION

PX is the basic solution in the product range. High degree of standardization leads to limited number of machine types and very affordable prices.

P

WIDE RANGE OF MODELS

P version offers a wide range of models from 60 to 220 tons and a wide range of different options.

PS

SUPERIOR PERFORMANCE

PS guarantees superior performance to meet the most demanding targets in productivity and flexibility.

PH

FOR HEAVY DUTY BENDING

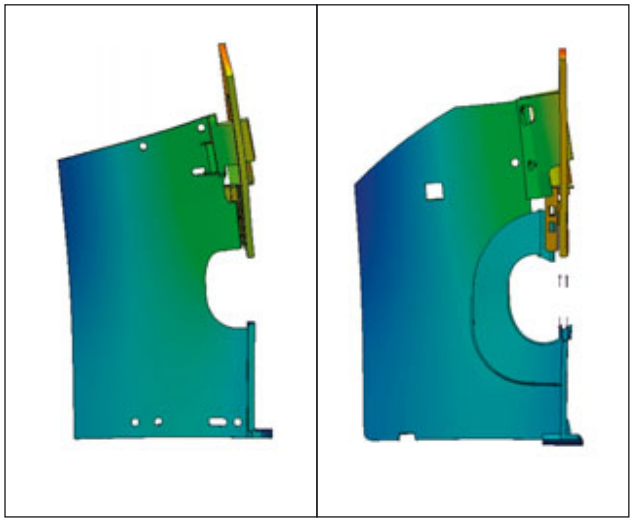
PH has been designed for heavy duty applications and to provide customer specific solutions.

Patented Hexa-C® frame with PX an P series brakes

The **patented structural concept Hexa-C®** ensures that the upper and lower beam remain aligned in any load condition contrary to what occurs in conventional C-structures. The upper beam guiding is fixed on reinforced "false C-frames" that guarantee perfect ram alignment independently of the side frame deformation.

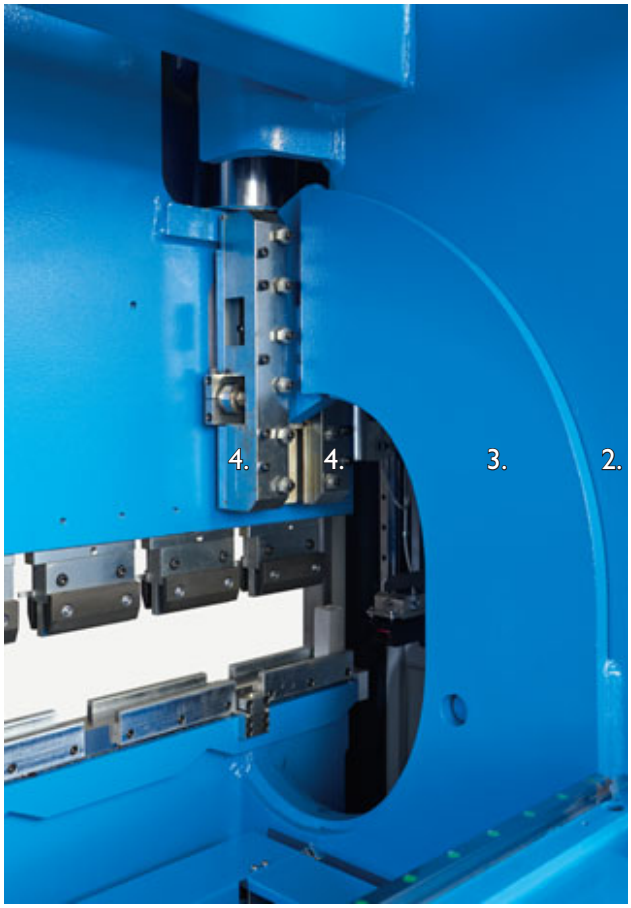
Hexa-C® advantages:

- Improved bending accuracy because movable beam remains perfectly aligned with fixed beam .
- Largest immunity to structure torsion effects in case of bending not in the center of the machine.
- Combine traditional function of strengthening the structure of "false C" with the function guiding support.
- The Hexa-C® philosophy present advantages in terms of sturdiness resulting therefore on a lighter frame and, consequently, lower environmental impact.



Conventional C-Frame *Patented Hexa-C® frame*

1. External C frame.
2. Side frame.
3. Internal C frame.



4. Ram guiding fixed on additional C-frames.

PX brake – a reliable basic solution

The PX series is built in three sizes based on a modular product structure. The design guideline "keep it simple" has lead to a high degree of standardization and well approved constructions. Reliability and affordable prices are direct derivatives of this approach.

Even though PX brakes represent the entry level in the Prima Power P-series no compromises have been made in terms of accuracy and reliability. Combining modern scientific calculations with decades of experience in machine tool building and construction is the foundation of the new PX series press brake.

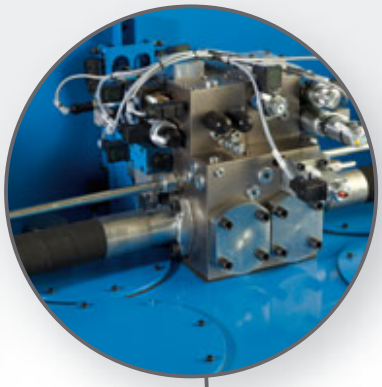
The solid PX architecture is based on a FEM optimized welded main frame based on the patented Hexa-C® structural concept. The working principle of PX brakes is based on electronic synchronized hydraulic drives that allow programmable bending speed as well as off-center and conic bending. Short set-up times for correct angles and ease of use are further advantages.

State of the art Lazer Safe safety guarding and a user friendly CNC control ensure easy and safe working with the PX-brake. All in all, the PX concept guarantees high accuracy combined with a high degree of reliability and safety.

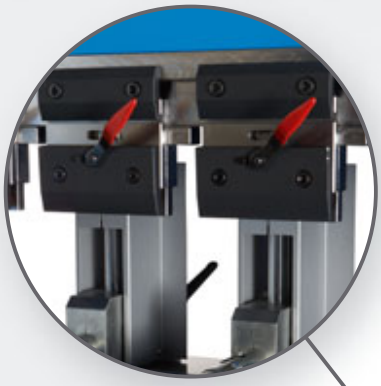
The standard configuration includes
- AD10 control with 7" colour screen
- CNC controlled Y1, Y2 and X axes with two back gauge fingers
- European style tool clamping with quick clamp intermediates
- 150 kg payload front supports
- Lazer safe
- CE / UL compatibility
- Hexa-C® frame

Optionally, the PX can be equipped with a 2D graphical, auto-sequencing programming interface, a CNC controlled crowning table, a CNC R-axis, table kits to adapt larger dies and a movable front support mounted on linear scales.

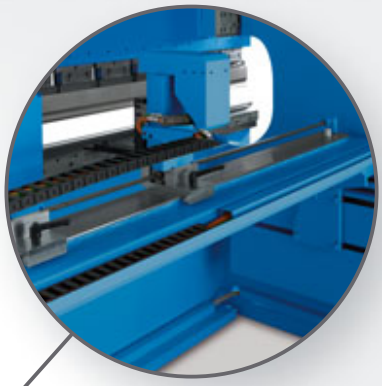
100 % European design and manufacturing invite for a closer look



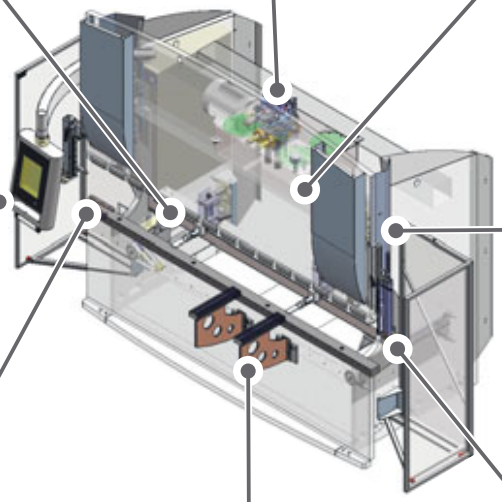
Synchronized servo-hydraulics



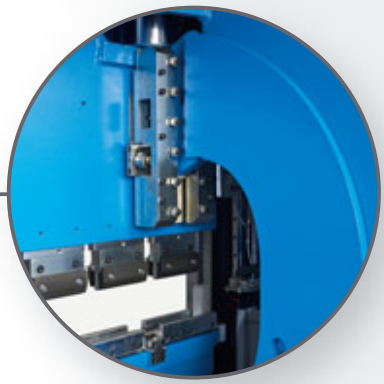
European style intermediates with quick clamp handles



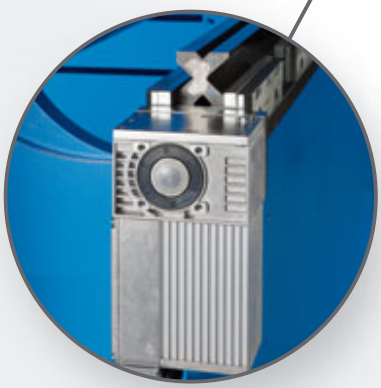
Back gauge up to four axis (X, R, Z1 and Z2)



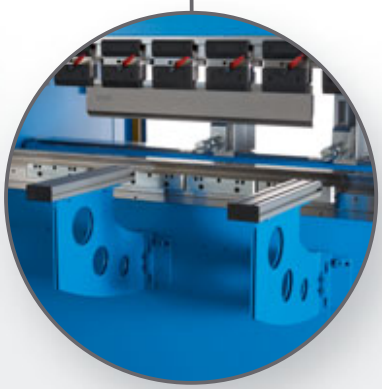
Graphical 2D programming with automatic bending sequence calculation (option)



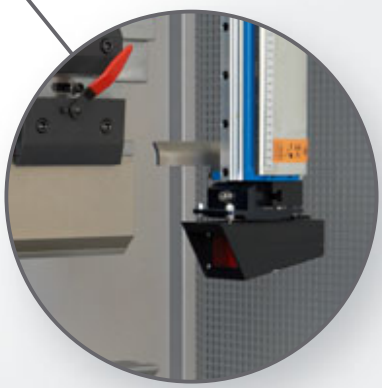
Hexa-C® frame construction



CNC Crowning (Option) compensates the bending line deflection and helps thus obtain constant angles.



Front supports with 150 kg payload each



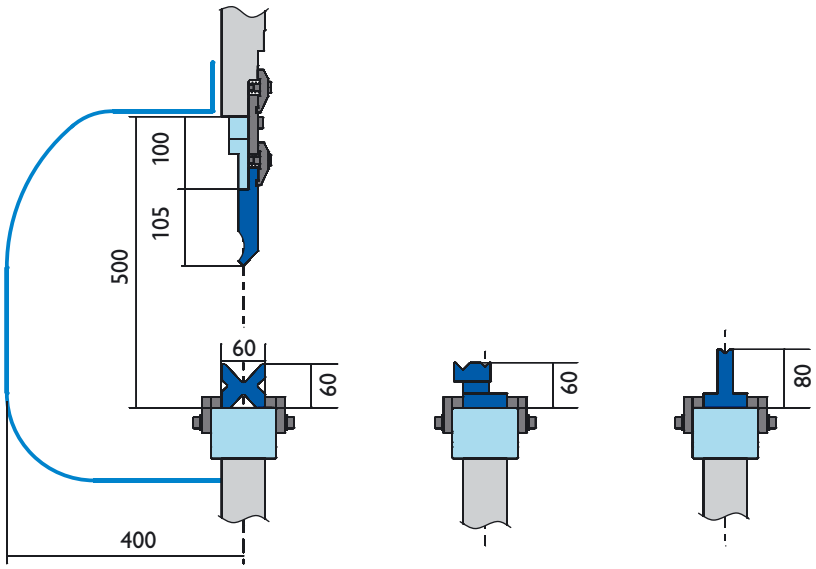
Lazer Safe safety equipment for safety and productivity

Technical data

PX Series Press Brakes		P-0620X	P-0925X	P-1330X	P-1340X	P-1630X	P-1640X	P-2240X
Capacity	kN	60	90	1,350	1,350	1,600	1,600	2,200
Working length	mm	2,000	2,500	3,000	4,000	3,000	4,000	4,000
Distance between housings	mm	1,550	2,050	2,550	3,150	2,550	3,150	3,150
Max. stroke	mm	260	260	260	260	260	260	260
Motor power	kW	5.5	5.5	7.5	7.5	9	9	15
Approach speed	mm/s	110	110	110	110	110	110	110
Working speed	mm/s	9	9	7	7	7	7	8
Return speed	mm/s	120	120	70	70	70	70	85
Stroke X	mm	625	625	625	625	625	625	625
Speed X	mm/s	350	350	350	350	350	350	350
Stroke R	mm	150	150	150	150	150	150	150
Speed R	mm/s	50	50	50	0	50	50	50
Stroke Z -Z1 /Z2	mm	80 to1,270	80 to 1,770	80 to 2,170	80 to 2,170	80 to 2,170	80 to 2,770	80 to 2,770
Speed Z -Z1 /Z2	mm/s	400	400	400	400	400	400	400
Lenght, CE / No-CE	mm	3,300 /2,100	3,800 / 2,600	4,300 / 3,100	4,820 / 4,100	4,300 / 3,100	4,820 / 4,100	4,820 / 4,100
Width, CE / No-CE	mm	2,050 / 1,635	2,050 / 1,635	2,050 / 1,635	2,050 / 1,635	2,050 / 1,635	2,050 / 1,635	2,070 / 1,670
Height	mm	2,930	2,930	2,955	2,980	2,955	2,980	2,980
Transportation height	mm	2,670	2,670	2,695	2,720	2,695	2,720	2,720
Weight	kg	4,800	5,800	7,500	10,900	7,700	11,100	12,250

We reserve the right to change technical specifications without prior notice.

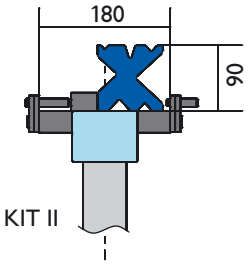
Work station



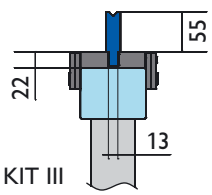
STANDARD VERSION
FOR DIE BASE 60 mm

OPTION VERSIONS

FOR DIE 90 mm



FOR DIE TYPE "WILA"



P brake for advanced versatility in machine configurations

The Prima Power P series press brake offers an advanced level of versatility. Its design platform is modular and standardized, which allows a wide offering of variations combined with affordable pricing. It has been designed to be a many sided solution for industries requiring flexibility and productivity.

The daylight opening, ram speed and tooling solutions have been studied in relation to each other in order to meet high productivity and flexibility requirements. Ram speeds exceeding 100 mm/s and the combination of Lazer Safe safety equipment and fast back gauge positioning speeds lead to increased productivity.

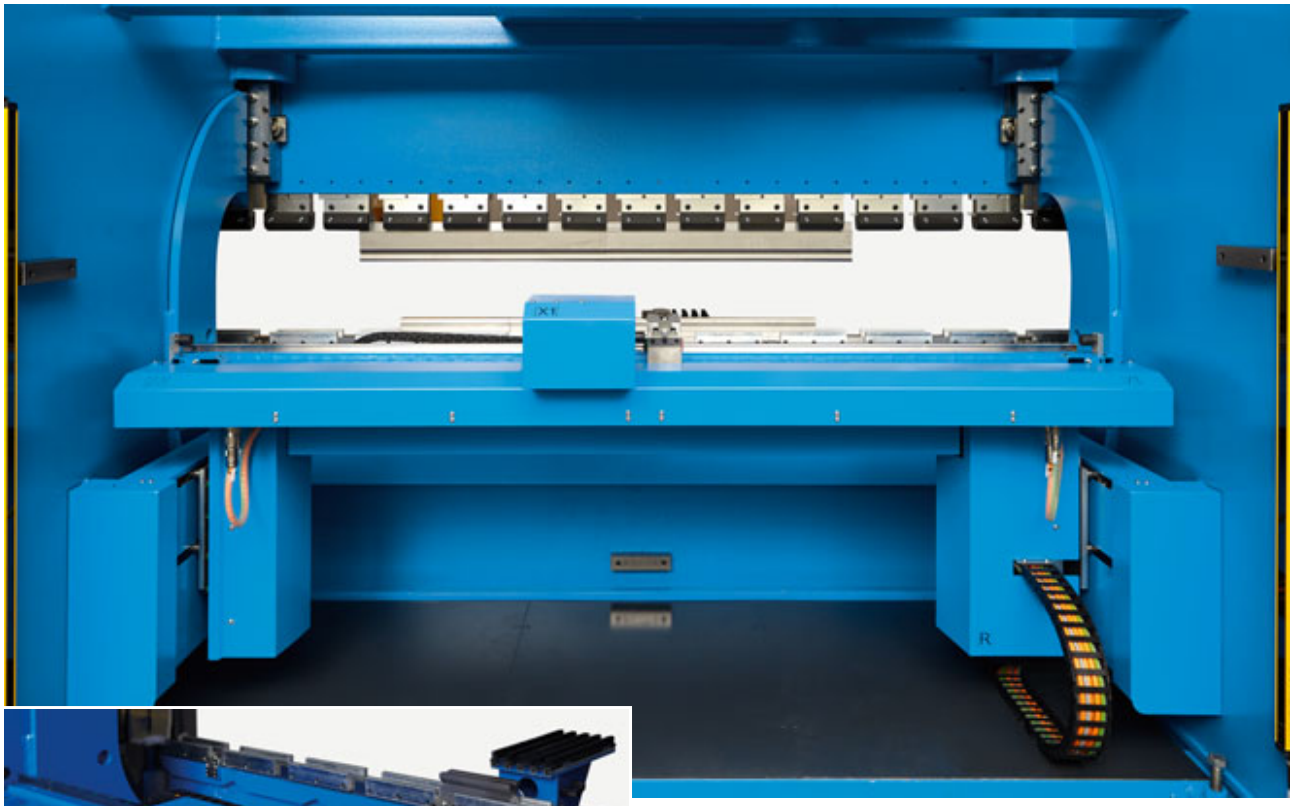
One of the highlights of the P brake is the Prima Electro Open control – also used in PS and PH brakes. The intuitive touch screen control is based on a 2D graphical interface with automatic bending sequencing. For programs made with the optional AutoPol off-line programming system the control features 3D simulation.

The standard configuration includes

- Prima Electro Open Control with 17" Touch Screen
- CNC controlled Y1, Y2 and a dual drive back gauge (X & R) with two back gauge fingers
- European style tool clamping with quick clamp intermediates. Included are also rear clamping plates for reverse tool mounting
- 100 kg payload front supports with brushes
- Lazer safe
- CE / UL compatible
- Hexa-C® frame

Optionally, the P brake can be equipped with Wila or Wilson tool clamping systems, hydraulic or pneumatic European style intermediates, a CNC controlled crowning table, CNC Z1 & Z2, R and relative movement X1 axes, table kits to adapt larger dies and a movable front support mounted on linear scales and CNC bending followers.

Precision through exact gauging



The 5-axis back gauge guarantees flexible and precise high speed gauging.

Ergonomic working environment

A dual articulation support arm with height adjustment enables flexible control panel positioning.

Support brush tables for easy part handling.

Ease of programming

Starting from the P model all Prima Power press brakes utilize the Prima Electro Open Control. For maximum processing speed this MS Windows 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.

The Prima Electro Open Control has a big hard disc, two USB ports and a network connection. It offers access to all control functions over teleservice.

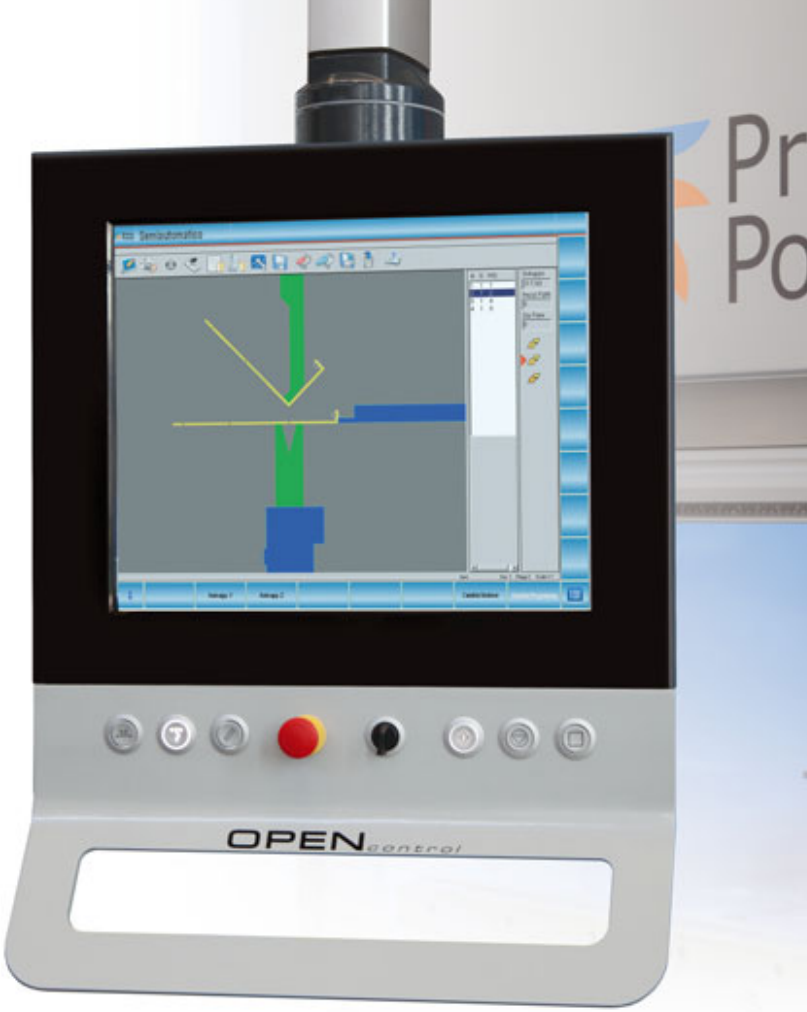
Most bending applications are easy to program by using the 2D graphical on-line programming with auto sequencing. As the demands may change in the course of time one may face the necessity of 3D off-line programming and 3D visualization of the parts in the machine control. The Prima Electro Open Control can at any time easily be SW-upgraded to meet this requirement.

AutoPOL off-line programming

AutoPOL is an easy-to-use and effective tool for off-line programming of all Prima Power P series brakes. 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 practically 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.

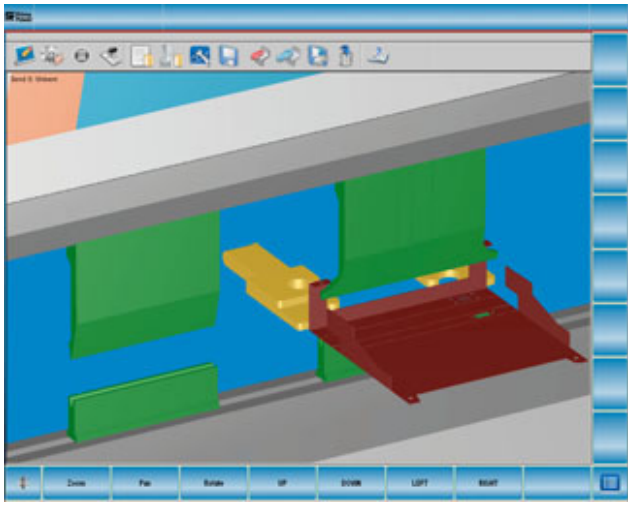
AutoPOL includes a **3D designer** for designing sheet metal parts, 2D and 3D file import functions, an **Unfolder** for automatic flat part calculation and a **Bend Simulator** for graphical programming and simulation.



2D programming with automatic bending sequencing

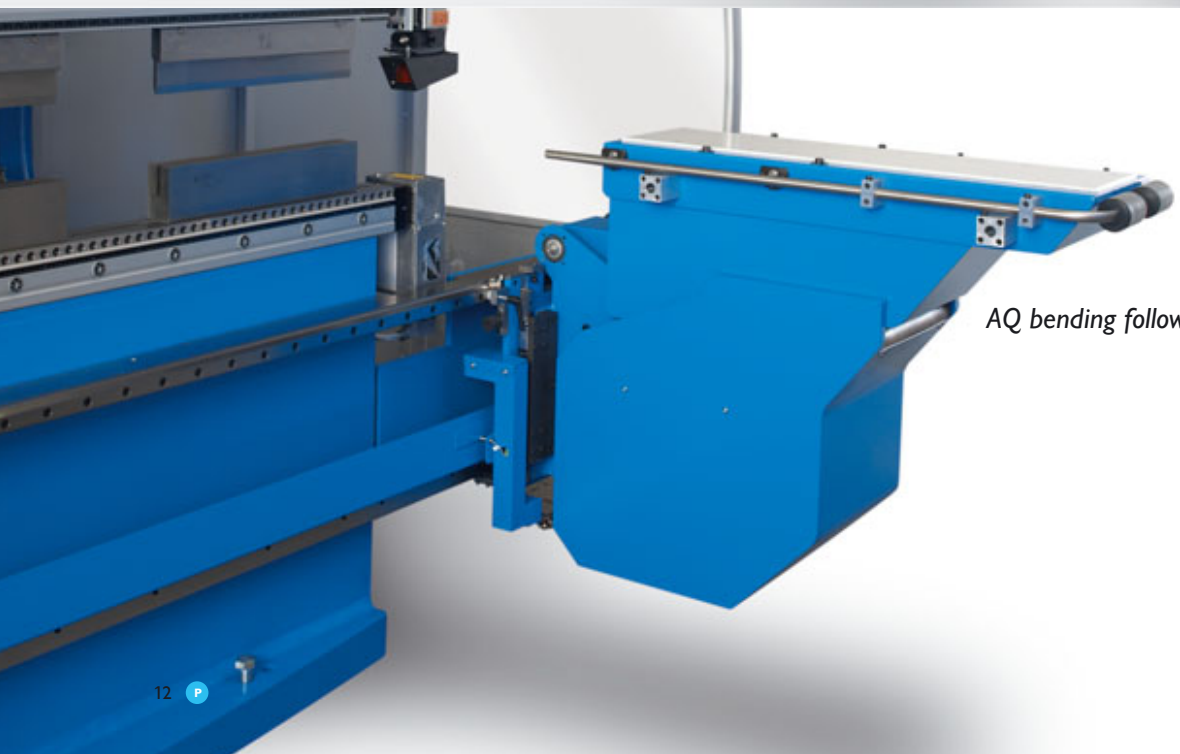
AutoPOL off-line programming

OPEN control 3D visualization of off-line programs

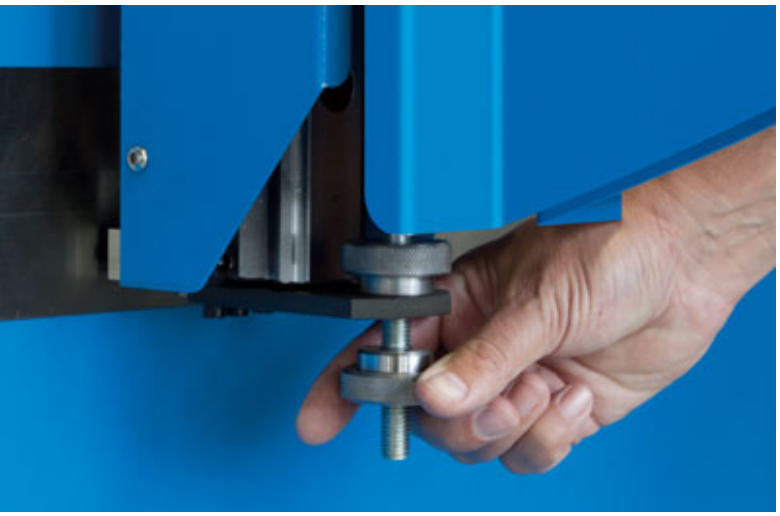


Advanced options

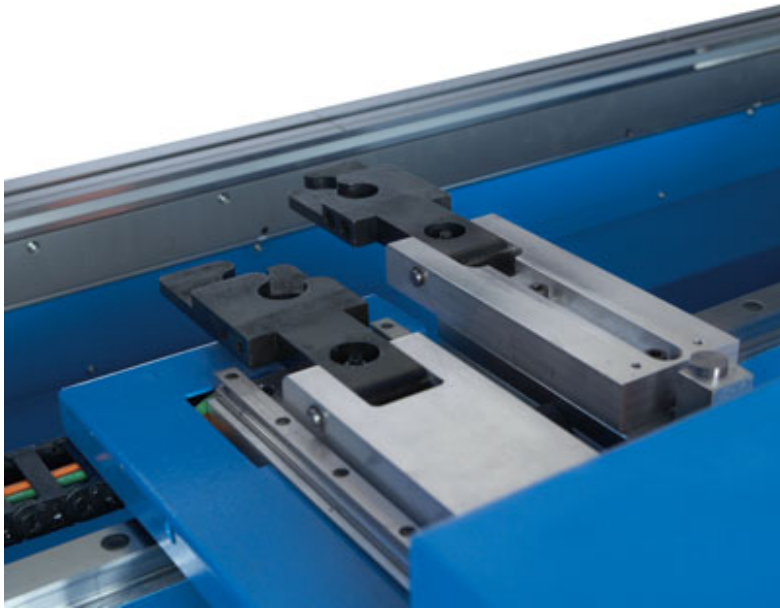
The ergonomics of bending big size panels can be significantly improved by the AQ bending follower. When the sheet is supported at the right time, angular deviation is reduced and material handling can be mastered by a single operator.



AQ bending follower in parking position



Movable front supports are equipped with keyless height adjustment; a spring loaded weight reduction system is included for ergonomic set-up work.



5-axis back gauge with an independent X1 movement of ± 100 mm

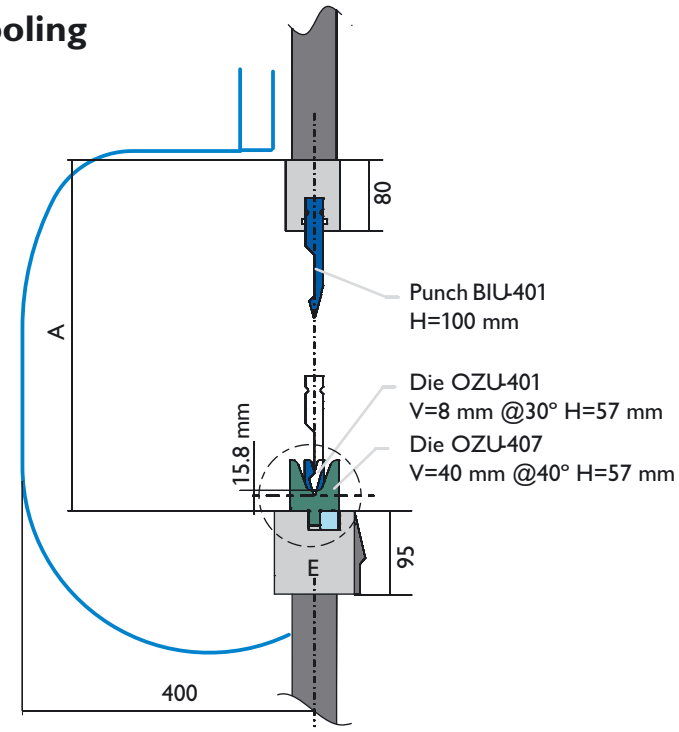
Pneumatically operated European style clamps allow vertical insertion and removal of tools. Even small segments can be removed separately leaving the adjoining tool segments safely fixed. The system aligns and seats the tools automatically.

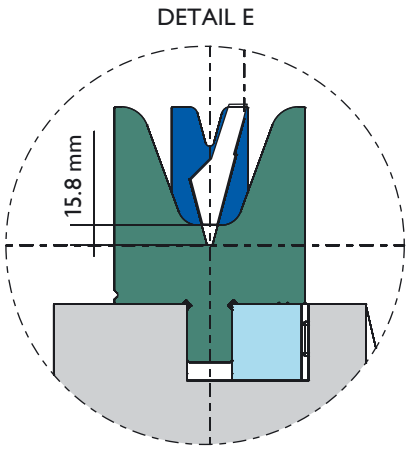
Wila tooling system meets the highest precision criteria and offers a continuous clamping bar. The symmetric clamping profile allows 180° tool swapping. Mechanical and hydraulic versions provide automatic tool alignment and seating. Tool segments equipped with safety clips can be inserted and removed vertically in any position along the clamping bar.

Technical data

P-Series Press Brakes		P-0620	P-0925	P-1330	P-1340
Capacity	kN	600	900	1,350	1,350
Working length	mm	2,000	2,500	3,000	4,000
Distance between housings	mm	1,550	2,050	2,550	3,150
Max. stroke	mm	260	260	260	260
(A) Max. open height	mm	445	445	445	445
(B) Max. open height	mm	500	500	500	500
Motor power	kW	5.5	7.5	15	15
Approach speed	mm/s	150	150	150	150
Working speed	mm/s	9	9	10	10
Return speed	mm/s	120	120	100	100
Stroke X	mm	625	625	625	625
Speed X	mm/s	800	800	800	800
Stroke R	mm	200	200	200	200
Speed R	mm/s	200	200	200	200
Stroke Z -Z1 /Z2	mm	90 to 1,150	90 to 1,650	90 to 2,150	90 to 2,750
Speed Z -Z1 /Z2	mm/s	1,200	1,200	1,200	1,200
Stroke X1	mm	± 100	± 100	± 100	± 100
Speed X1	mm/s	100	100	100	100
Lenght, CE / No-CE	mm	3,300 / 2,100	3,800 / 2,600	4,300 / 3,100	4,820 / 4,100
Width, CE / No-CE	mm	2,050 / 1,635	2,050 / 1,635	2,050 / 1,635	2,070 / 1,635
Height	mm	2,930	2,930	2,955	2,980
Transportation height	mm	2,670	2,670	2,695	2,720
Weight	kg	5,000	6,000	7,700	11,100

Work Station with Wila tooling



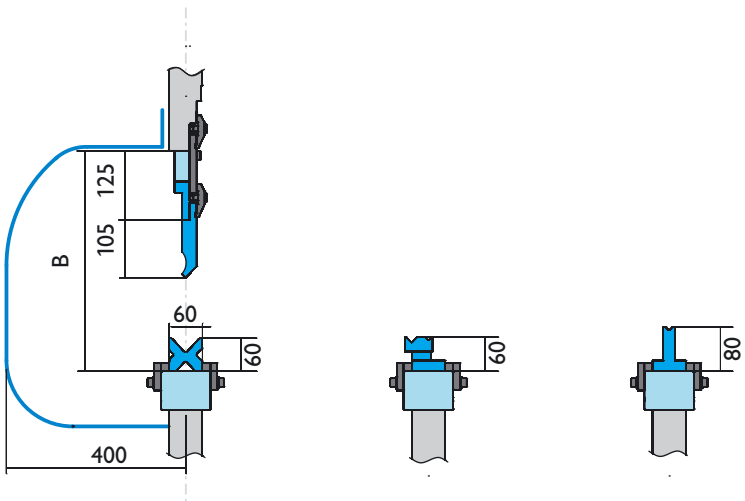


NOTE:
Penetration at bottom dead point

P-1630	P-1640	P-2230	P-2240
1,600	1,600	2,200	2,200
3,000	4,000	3,000	4,000
2,550	3,150	2,550	3,150
260	260	260	260
445	445	445	445
500	500	500	500
15	15	15	15
150	150	130	130
10	10	8	8
100	100	85	85
625	625	625	625
800	800	800	800
200	200	200	200
200	200	200	200
90 to 2,150	90 to 2,750	90 to 2,150	90 to 2,750
1,200	1,200	1,200	1,200
± 100	± 100	± 100	± 100
100	100	100	100
4,300 / 3,100	4,820 / 4,100	4,300 / 3,100	4,820 / 4,100
2,050 / 1,635	2,070 / 1,670	2,050 / 1,635	2,070 / 1,670
2,955	2,980	2,955	2,980
2,695	2,720	2,695	2,720
7,900	11,300	9,100	12,450

We reserve the right to change technical specifications without prior notice.

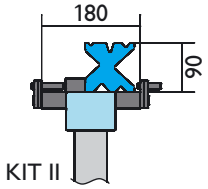
Work Station with European style tooling



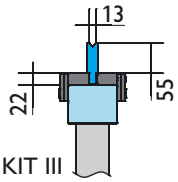
STANDARD VERSION FOR DIE BASE 60 mm

OPTION VERSIONS

FOR DIE 90 mm



FOR DIE TYPE "WILA"




Prima
Power
OPEN

PS brake for superior performance

The Prima Power PS brake stands for the outmost in flexibility and productivity. It has been designed for precision and high productivity in the most demanding manufacturing facilities.

The servo-hydraulic system has been designed to maximize ram speeds, which can reach up to 200 mm/sec both in approach and return. Working speed is programmable to ensure bending without loss of product quality or operator safety. The power boost function enables a maximum bending speed of 20mm/s, which can be used if allowed by local safety regulations.

Lazer Safe's "Block Laser" 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 that the back gauge will be ready when the part is presented for each operation.

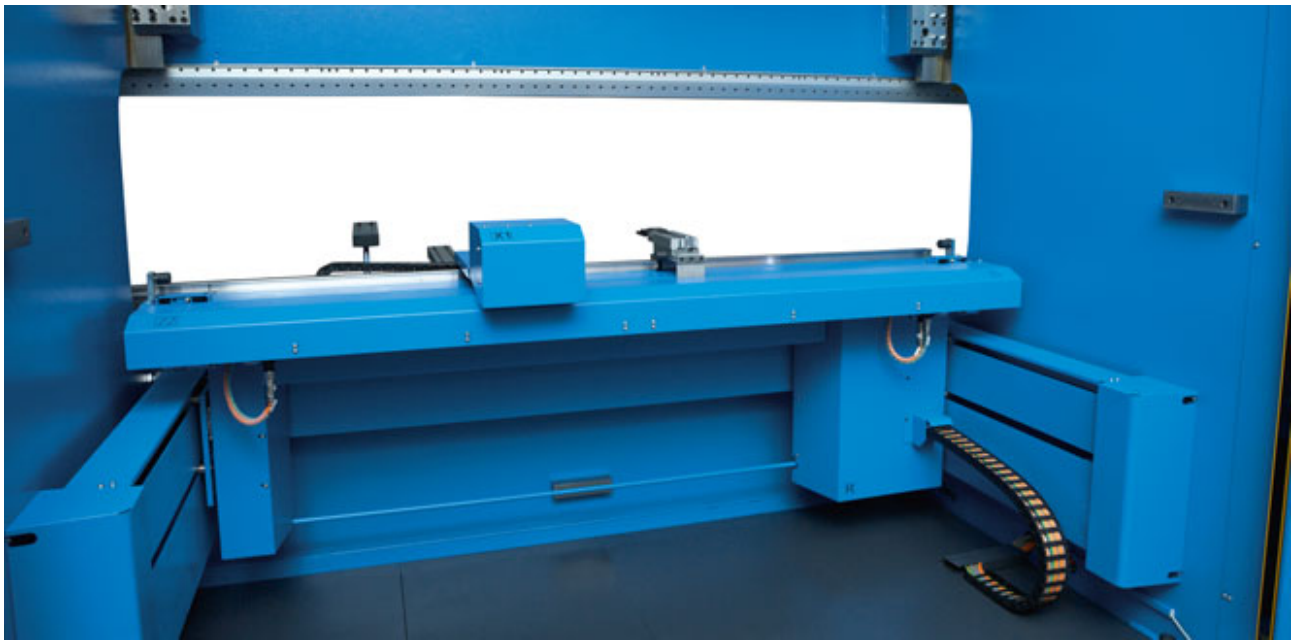
Each and every machine component of the Prima Power PS brake contributes to superior performance:

- Prima Electro Open Control
- Lazer Safe "Block Laser"
- Daylight 630 mm
- Stroke 400 mm
- Approaching and returning speeds up to 200 mm/s
- Wila,Wilson, European and American tooling systems
- Up to 6-axis high speed back gauges
- NC front supports
- Robot interface

Standards for superior performance

Prima Electro Open Control with 17" Touch Screen

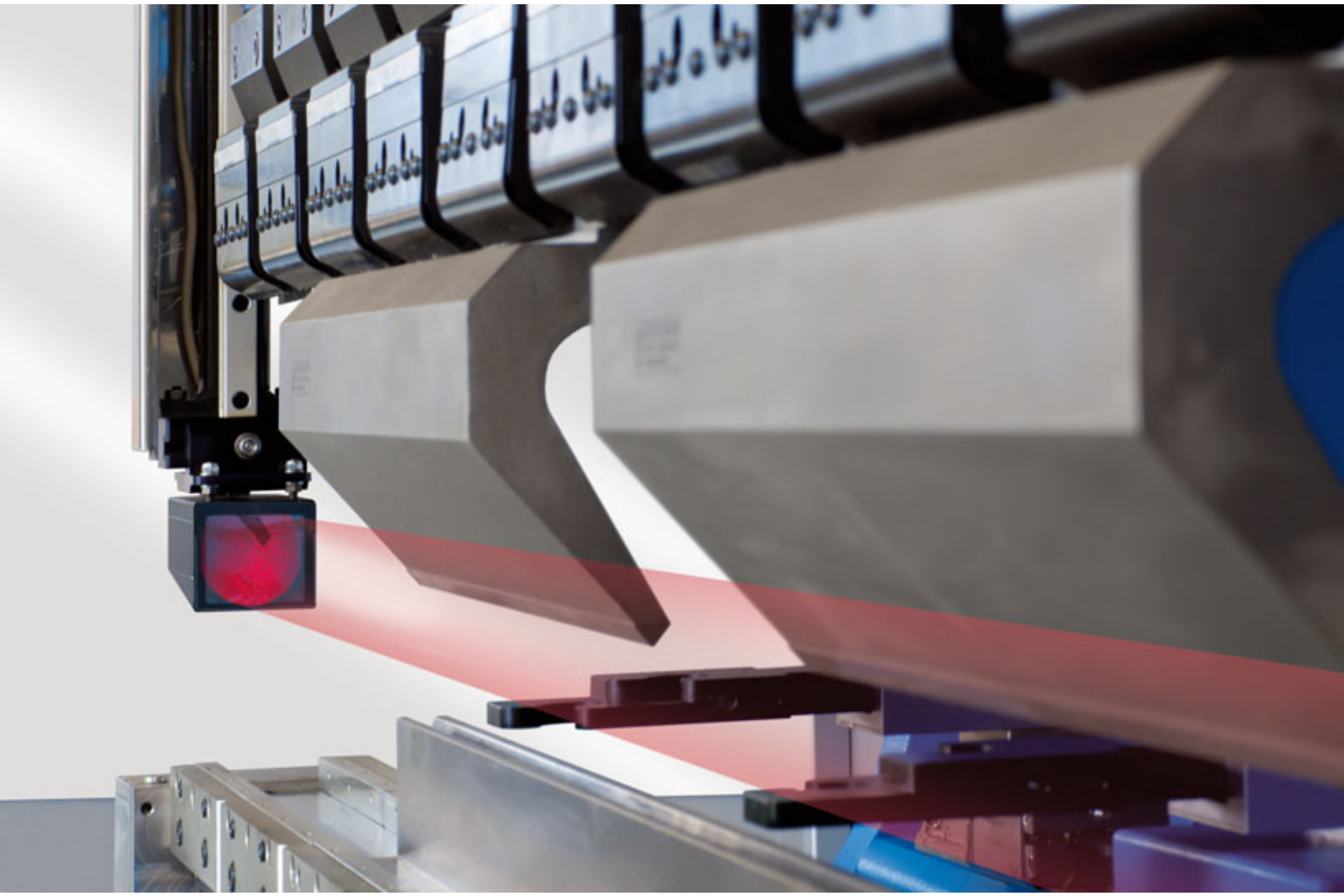
400 mm stroke and roll-guided ram



High speed gauging of parallel and non-parallel flanges with 5-axis back gauge.

Front supports with 100 kg payload each are mounted on linear rails and equipped with keyless height adjustment.

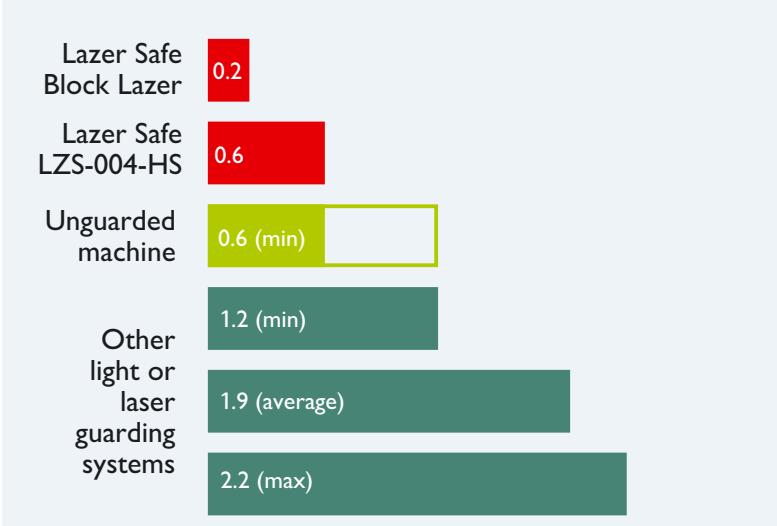
The state of the art in safety and productivity



The "Block Laser" 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 PS brake.

- Speed change 2 mm above material
- Allows the operator to work safely 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)
- Automatic alignment function in relation to tooling
- Fast removal with automatic repositioning for lateral tool changing

Block-lazer to maximize safety, productivity and tool crash protection

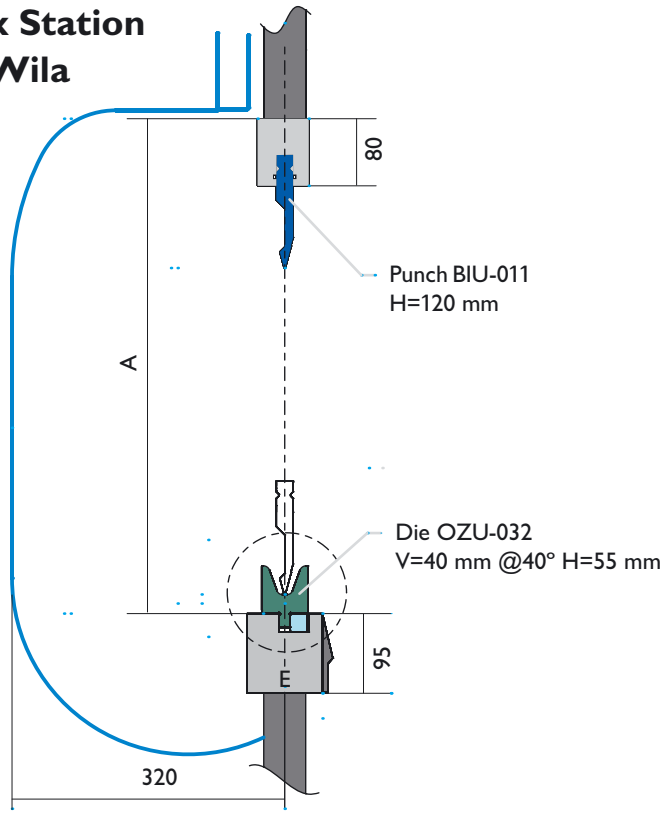


Comparison time in slow speed closing (seconds per cycle)

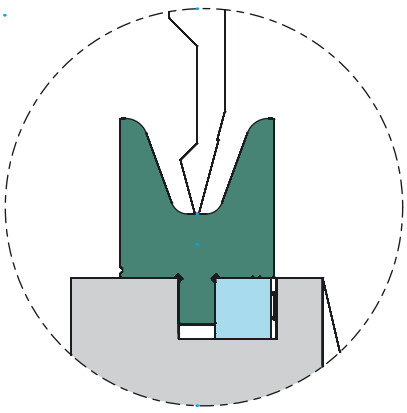
Technical data

PS Series PressBrake		P-0620 S	P-0925 S	P-1330 S	P-1630 S
Bending capacity	kN	600	900	1,350	1,600
Bending length	mm	2,000	2,500	3,000	3,000
Distance between housings	mm	1,550	2,050	2,550	2,550
Max. stroke	mm	400	400	400	400
Max. daylight [A]	mm	620	620	620	620
Max. daylight [B]	mm	630	630	630	630
Motor power	kW	7.5	11	22	22
Approaching speed	mm/s	220	220	200	180
Working speed, max. *	mm/s	10 / 20	10 / 20	10 / 20	10 / 20
Return speed	mm/s	240	240	200	200
Travel X axis	mm	625	625	625	625
Speed X axis	mm/s	800	800	800	800
Travel R axis	mm	200	200	200	200
Speed R axis	mm/s	200	200	200	200
Travel Z –Z1 /Z2	mm	80 – 1,170	80 – 1,670	80 – 2,170	80 – 2,170
SpeedZ –Z1 /Z2	mm/s	1,200	1,200	1,200	1,200
Travel axis X1	mm	± 100	± 100	± 100	± 100
Speed X1	mm/s	100	100	100	100
Overall length, CE / No-CE	mm	3,280 / 2,200	3,780 / 2,700	4,300 / 3,200	4,300 / 3,200
Overall depth, CE / No-CE	mm	2,030 / 1,600	2,030 / 1,610	2,030 / 1,620	2,030 / 1,620
Overall height	mm	3,200	3,360	3,380	3,380
Transport height	mm	2,800	2,950	2,980	2,980
Weight approx.	kg	6,000	7,000	9,000	9,200

Work Station with Wila



DETAIL E

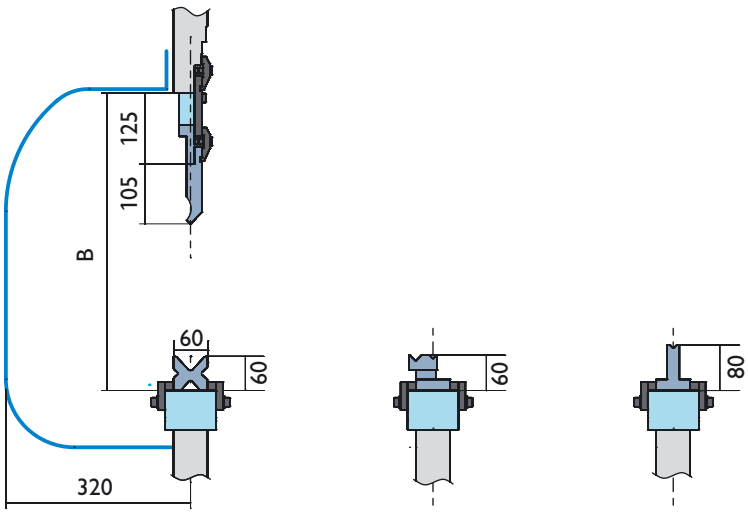


NOTE:
Penetration at bottom dead point.

P-1640 S	P-2230 S	P-2240 S	
1,600	2,200	2,200	
4,000	3,000	4,000	
3,150	2,550	3,150	
400	400	400	
620	620	620	
630	630	630	
22	22	22	
200	170	170	
10 / 20	8 / 18	8 / 18	According to local safety regulations
200	170	170	
625	625	625	
800	800	800	
200	200	200	
200	200	200	
80 – 2,770	80 – 2,170	80 – 2,770	
1,200	1,200	1,200	
± 100	± 100	± 100	
100	100	100	
4,820 / 4,200	4,300 / 3,200	4,820 / 4,200	
2,030 / 1,620	2,030 / 1,620	2,030 / 1,620	
3,380	3,380	3,380	
2,980	2,980	2,980	
13,200	11,900	14,100	

We reserve the right to change technical specifications without prior notice.

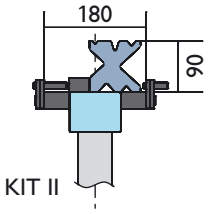
Work Station with European Style tooling



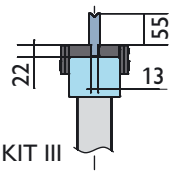
STANDARD VERSION FOR DIE BASE 60 mm

OPTION VERSIONS

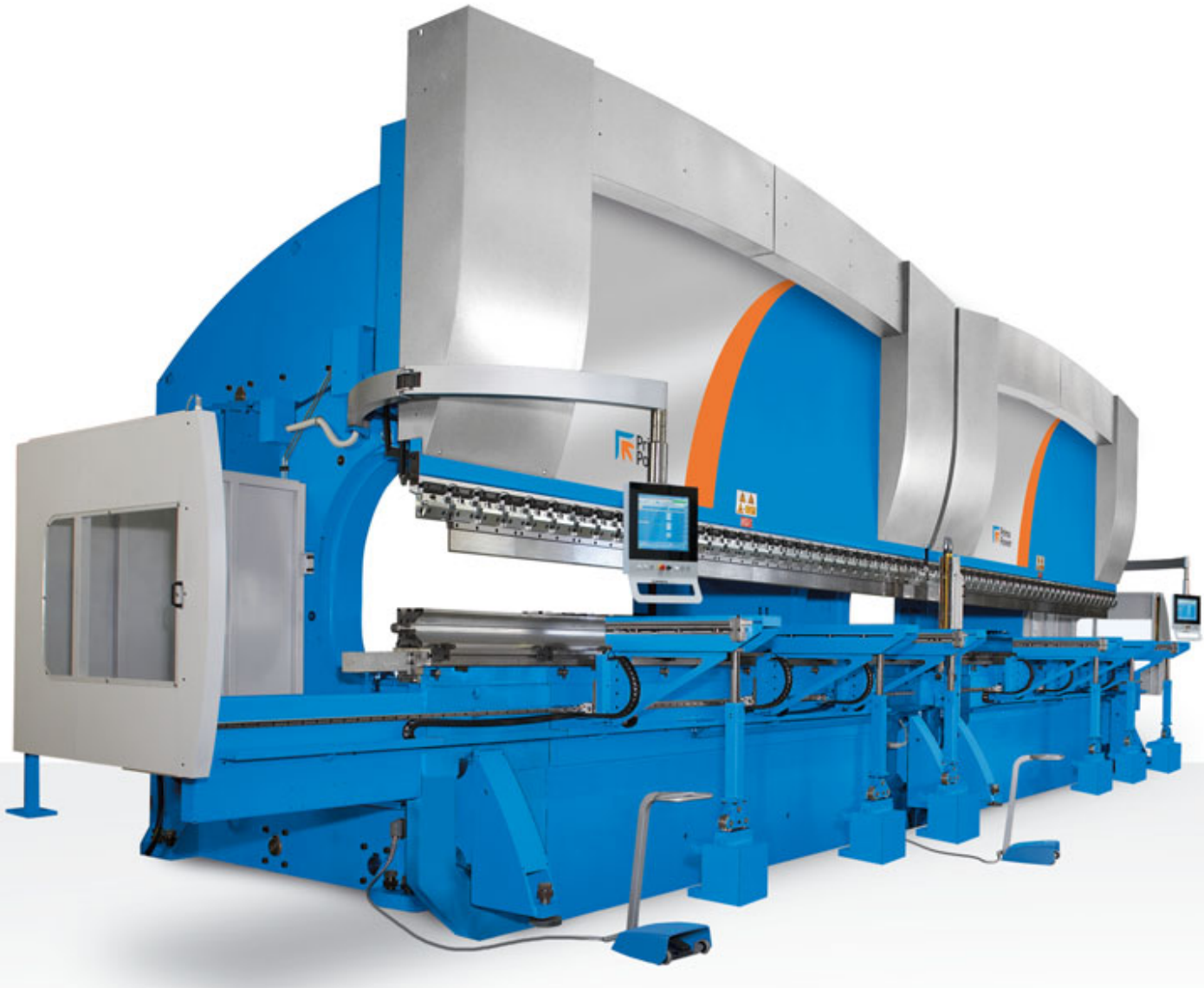
FOR DIE 90 mm



FOR DIE TYPE "WILA"



Prima Power PH for heavy-duty applications

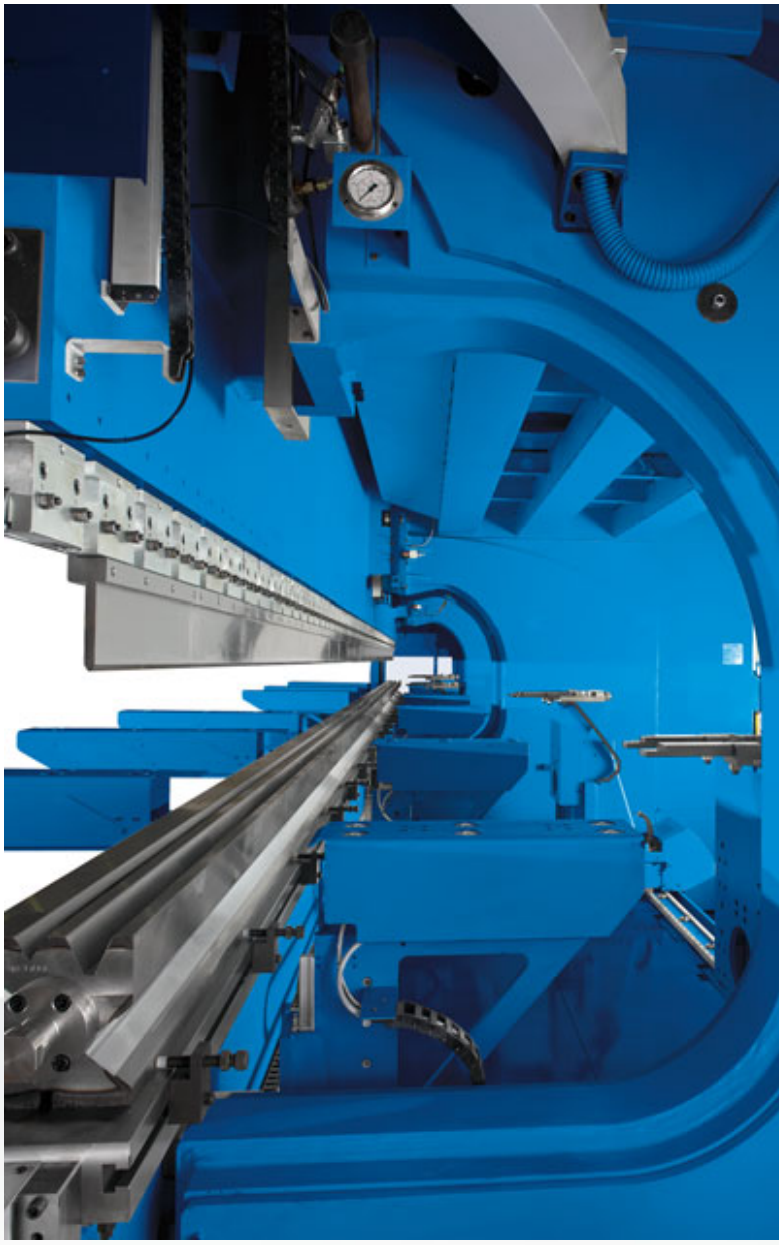


PH Series Press Brakes (P-### H)		3060	3070	4040	4060	4070	5040	5060	5070
Capacity	kN	3,000	3,000	4,000	4,000	4,000	5,000	5,000	5,000
Working length	mm	6,100	7,100	4,100	6,100	7,100	4,100	6,100	7,100
Distance between housings	mm	5,100	6,150	3,150	5,100	6,150	3,150	5,100	6,150
Max. stroke	mm	250	250	250	250	250	250	250	250
Max. open height	mm	530	530	530	530	530	530	530	530
Throat depth	mm	400	400	400	400	400	400	400	400
Motor power	kW	18	18	30	30	30	30	30	30
Approach speed	mm/s	100	100	100	100	100	100	100	100
Working speed	mm/s	8	8	9	9	9	8.5	8.5	8.5
Return speed	mm/s	100	100	90	90	90	75	75	75
Length	mm	6,550	7,650	4,400	6,550	7,650	4,400	6,550	7,650
Width	mm	2,000	2,000	2,300	2,300	2,300	2,350	2,350	2,350
Height	mm	3,500	3,950	3,450	3,700	4,050	3,650	4,280	4,600
Workstation height w/ tools	mm	1,100	860	1,000	860	860	1,080	860	860
Underfloor distance	mm	–	1,500	–	1,400	1,900	–	1,500	1,900
Approx. weight	kg	35,000	40,000	25,000	38,000	44,000	32,000	45,000	59,000

Whenever thick materials, long parts and customer specific options are concerned, PH-series is the solution. The wide product range of standard sizes covers bending applications up to 9 meter bending length and up to 1,600 ton bending force. Standard strokes and daylights are generously dimensioned. In addition, various front supports and back gauge solutions up to 9 axes are available for optimizing the bending process.

To meet requests exceeding the standard range the PH brakes can be built in tandem for longer parts as well as in reinforced execution for higher tonnages. The PH brakes are often customized according to specific bending applications starting from part feasibility studies – and this is where the decades of experience make the difference. Special tooling solutions, extra long strokes, oversize daylights, deeper gaps and special beds are some of the means in defining the optimal production solution for any particular application. In addition, automation solutions for part support, extraction and feeding are frequently applied to increase our customers' productivity.

Think big – PH will meet your production requirements.



6040	6060	6070	8060	8070	11060	11070	11080	13560	13570	13590	16075
6,000	6,000	6,000	8,000	8,000	11,000	11,000	11,000	13,500	13,500	13,500	16,000
4,100	6,100	7,100	6,100	7,100	6,100	7,100	8,100	6,100	7,100	9,100	7,500
3,150	5,100	6,150	5,100	6,150	5,100	6,150	6,800	5,100	6,150	8,100	6,200
300	300	300	300	300	300	300	300	300	300	300	640
600	600	600	600	600	700	700	700	700	700	700	1,000
400	400	400	400	400	400	400	400	400	400	400	640
37	37	37	45	45	55	55	55	2x30	2x30	2x30	2x55
100	100	100	100	100	100	100	100	100	100	100	70
7.5	7.5	7.5	7.5	7.5	7	7	7	6.5	6.5	6.5	8.5
75	75	75	75	75	80	80	80	90	90	90	90
4,400	6,650	7,650	6,550	7,650	6,550	7,650	8,650	6,550	7,650	9,650	8,700
2,600	2,600	2,600	2,700	2,700	2,900	2,900	2,900	3,200	3,200	3,200	3,250
4,200	4,450	4,700	4,600	4,900	4,700	5,050	5,430	5,300	5,600	5,900	5,700
1,100	860	860	860	860	860	860	860	860	860	860	850
–	1,500	2,000	1,750	2,100	2,000	2,250	2,400	2,600	2,850	3,025	2,850
42,000	50,000	64,000	70,000	79,000	92,000	112,000	125,000	100,000	115,000	140,000	150,000

We reserve the right to change technical specifications without prior notice.

Prima Power

The Bend
The Combi
The Laser
The Punch
The System
The Software

Servo-hydraulic bending technology by Prima Power

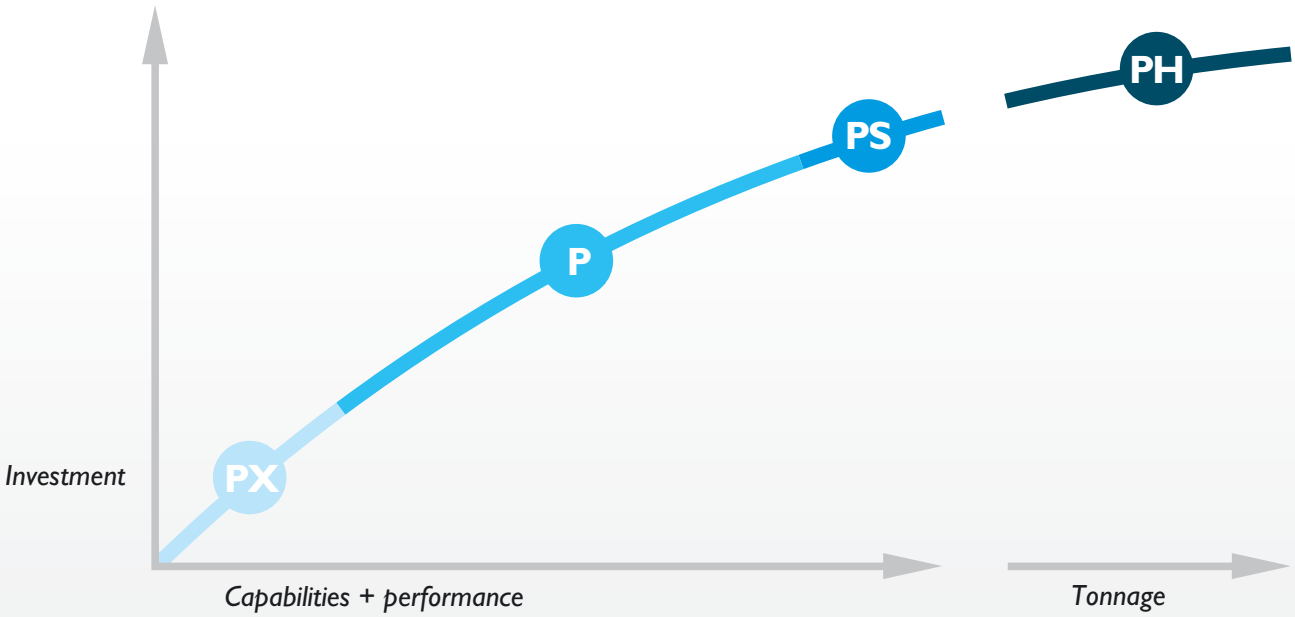
Servo-hydraulic Prima Power bending technology

Prima Power is recognized as a premier builder of fabricating equipment worldwide and its new P series servo-hydraulic press brakes makes no exception to this tradition.

To meet the most varied bending application and production requirements the P series comes in four different versions. The right choice between PX, P, PS and PH versions guarantees the optimum combination of performance and investment cost for any production task.

P series assembly lines

A common feature to all P series press brakes is a modular design platform, decades of experience, state-of-the-art machine construction and the latest in control technology, as well as 100 % design and manufacturing in Europe.



PX

THE BASIC SOLUTION

PX is the basic solution in the product range. High degree of standardization leads to limited number of machine types and very affordable prices.

P

WIDE RANGE OF MODELS

P version offers a wide range of models from 60 to 220 tons and a wide range of different options.

PS

SUPERIOR PERFORMANCE

PS guarantees superior performance to meet the most demanding targets in productivity and flexibility.

PH

FOR HEAVY DUTY BENDING

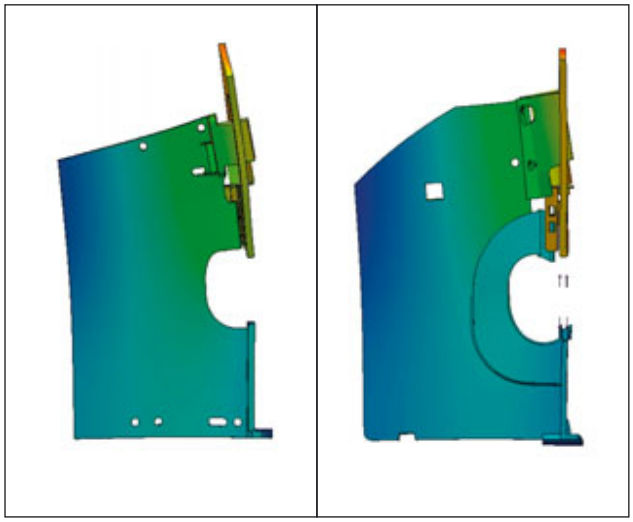
PH has been designed for heavy duty applications and to provide customer specific solutions.

Patented Hexa-C® frame with PX an P series brakes

The **patented structural concept Hexa-C®** ensures that the upper and lower beam remain aligned in any load condition contrary to what occurs in conventional C-structures. The upper beam guiding is fixed on reinforced "false C-frames" that guarantee perfect ram alignment independently of the side frame deformation.

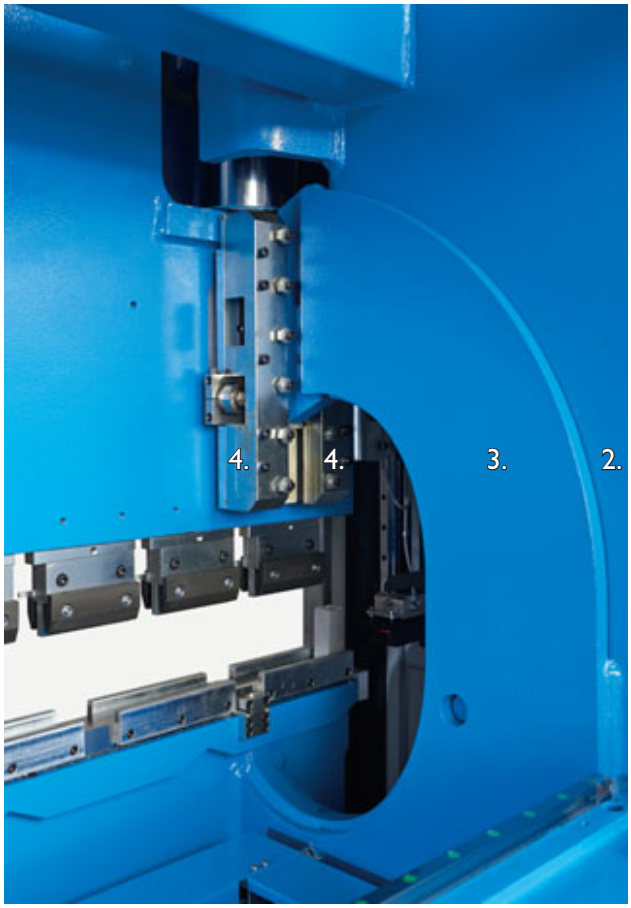
Hexa-C® advantages:

- Improved bending accuracy because movable beam remains perfectly aligned with fixed beam .
- Largest immunity to structure torsion effects in case of bending not in the center of the machine.
- Combine traditional function of strengthening the structure of "false C" with the function guiding support.
- The Hexa-C® philosophy present advantages in terms of sturdiness resulting therefore on a lighter frame and, consequently, lower environmental impact.



Conventional C-Frame *Patented Hexa-C® frame*

1. External C frame.
2. Side frame.
3. Internal C frame.



4. Ram guiding fixed on additional C-frames.

PX brake – a reliable basic solution

The PX series is built in three sizes based on a modular product structure. The design guideline "keep it simple" has lead to a high degree of standardization and well approved constructions. Reliability and affordable prices are direct derivatives of this approach.

Even though PX brakes represent the entry level in the Prima Power P-series no compromises have been made in terms of accuracy and reliability. Combining modern scientific calculations with decades of experience in machine tool building and construction is the foundation of the new PX series press brake.

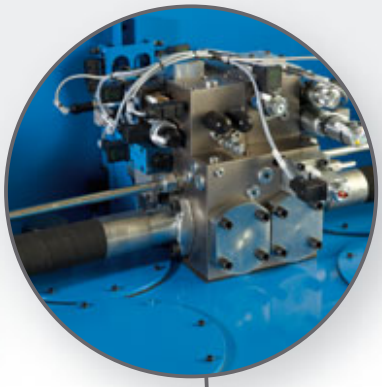
The solid PX architecture is based on a FEM optimized welded main frame based on the patented Hexa-C® structural concept. The working principle of PX brakes is based on electronic synchronized hydraulic drives that allow programmable bending speed as well as off-center and conic bending. Short set-up times for correct angles and ease of use are further advantages.

State of the art Lazer Safe safety guarding and a user friendly CNC control ensure easy and safe working with the PX-brake. All in all, the PX concept guarantees high accuracy combined with a high degree of reliability and safety.

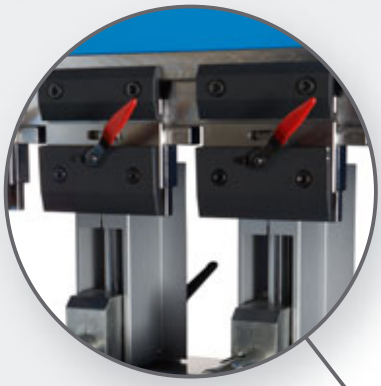
The standard configuration includes
- AD10 control with 7" colour screen
- CNC controlled Y1, Y2 and X axes with two back gauge fingers
- European style tool clamping with quick clamp intermediates
- 150 kg payload front supports
- Lazer safe
- CE / UL compatibility
- Hexa-C® frame

Optionally, the PX can be equipped with a 2D graphical, auto-sequencing programming interface, a CNC controlled crowning table, a CNC R-axis, table kits to adapt larger dies and a movable front support mounted on linear scales.

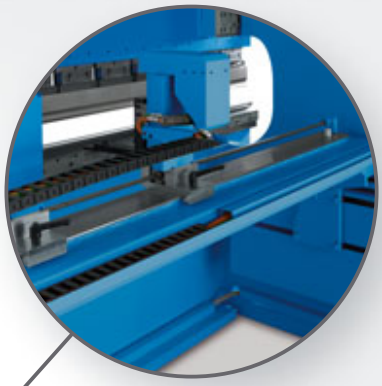
100 % European design and manufacturing invite for a closer look



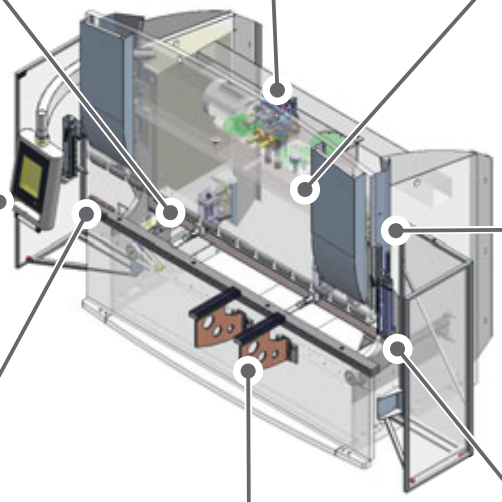
Synchronized servo-hydraulics



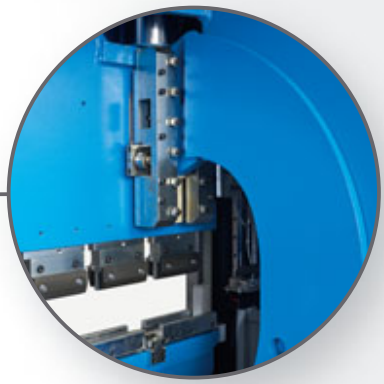
European style intermediates with quick clamp handles



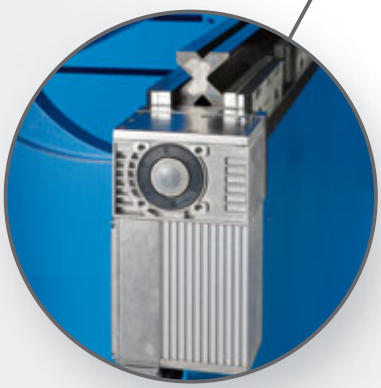
Back gauge up to four axis (X, R, Z1 and Z2)



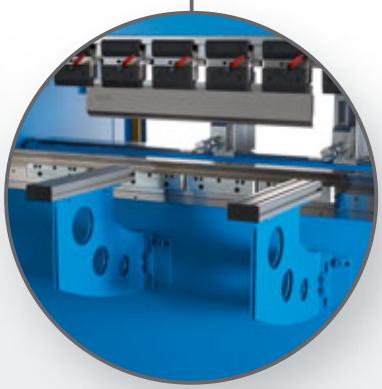
Graphical 2D programming with automatic bending sequence calculation (option)



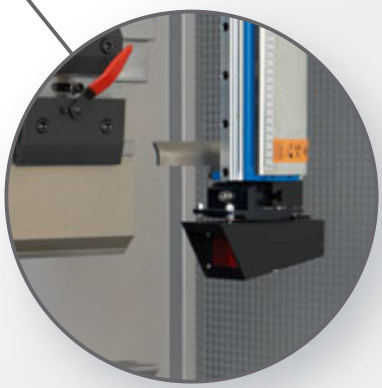
Hexa-C® frame construction



CNC Crowning (Option) compensates the bending line deflection and helps thus obtain constant angles.



Front supports with 150 kg payload each



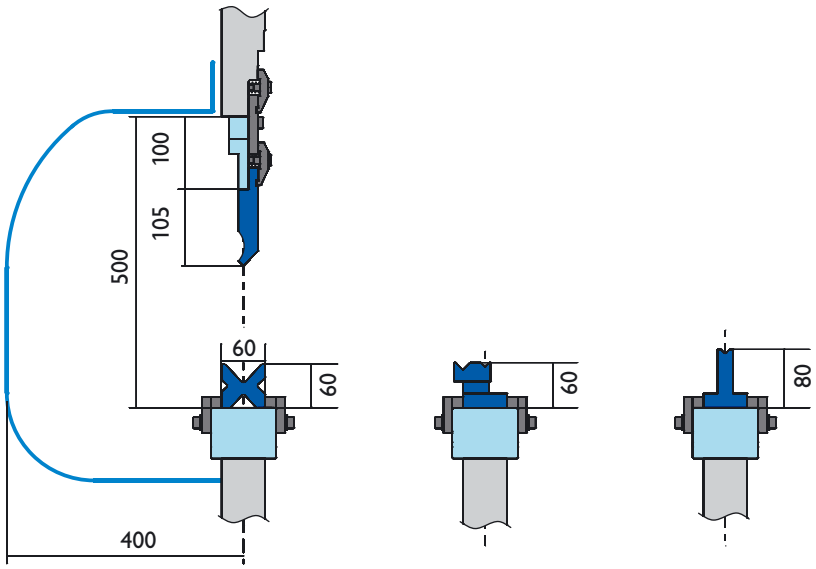
Lazer Safe safety equipment for safety and productivity

Technical data

PX Series Press Brakes		P-0620X	P-0925X	P-1330X	P-1340X	P-1630X	P-1640X	P-2240X
Capacity	kN	60	90	1,350	1,350	1,600	1,600	2,200
Working length	mm	2,000	2,500	3,000	4,000	3,000	4,000	4,000
Distance between housings	mm	1,550	2,050	2,550	3,150	2,550	3,150	3,150
Max. stroke	mm	260	260	260	260	260	260	260
Motor power	kW	5.5	5.5	7.5	7.5	9	9	15
Approach speed	mm/s	110	110	110	110	110	110	110
Working speed	mm/s	9	9	7	7	7	7	8
Return speed	mm/s	120	120	70	70	70	70	85
Stroke X	mm	625	625	625	625	625	625	625
Speed X	mm/s	350	350	350	350	350	350	350
Stroke R	mm	150	150	150	150	150	150	150
Speed R	mm/s	50	50	50	0	50	50	50
Stroke Z -Z1 /Z2	mm	80 to1,270	80 to 1,770	80 to 2,170	80 to 2,170	80 to 2,170	80 to 2,770	80 to 2,770
Speed Z -Z1 /Z2	mm/s	400	400	400	400	400	400	400
Lenght, CE / No-CE	mm	3,300 /2,100	3,800 / 2,600	4,300 / 3,100	4,820 / 4,100	4,300 / 3,100	4,820 / 4,100	4,820 / 4,100
Width, CE / No-CE	mm	2,050 / 1,635	2,050 / 1,635	2,050 / 1,635	2,050 / 1,635	2,050 / 1,635	2,050 / 1,635	2,070 / 1,670
Height	mm	2,930	2,930	2,955	2,980	2,955	2,980	2,980
Transportation height	mm	2,670	2,670	2,695	2,720	2,695	2,720	2,720
Weight	kg	4,800	5,800	7,500	10,900	7,700	11,100	12,250

We reserve the right to change technical specifications without prior notice.

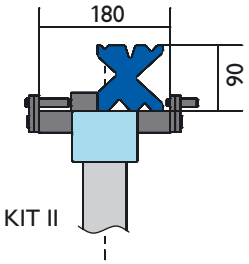
Work station



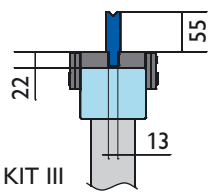
STANDARD VERSION
FOR DIE BASE 60 mm

OPTION VERSIONS

FOR DIE 90 mm



FOR DIE TYPE "WILA"



P brake for advanced versatility in machine configurations

The Prima Power P series press brake offers an advanced level of versatility. Its design platform is modular and standardized, which allows a wide offering of variations combined with affordable pricing. It has been designed to be a many sided solution for industries requiring flexibility and productivity.

The daylight opening, ram speed and tooling solutions have been studied in relation to each other in order to meet high productivity and flexibility requirements. Ram speeds exceeding 100 mm/s and the combination of Lazer Safe safety equipment and fast back gauge positioning speeds lead to increased productivity.

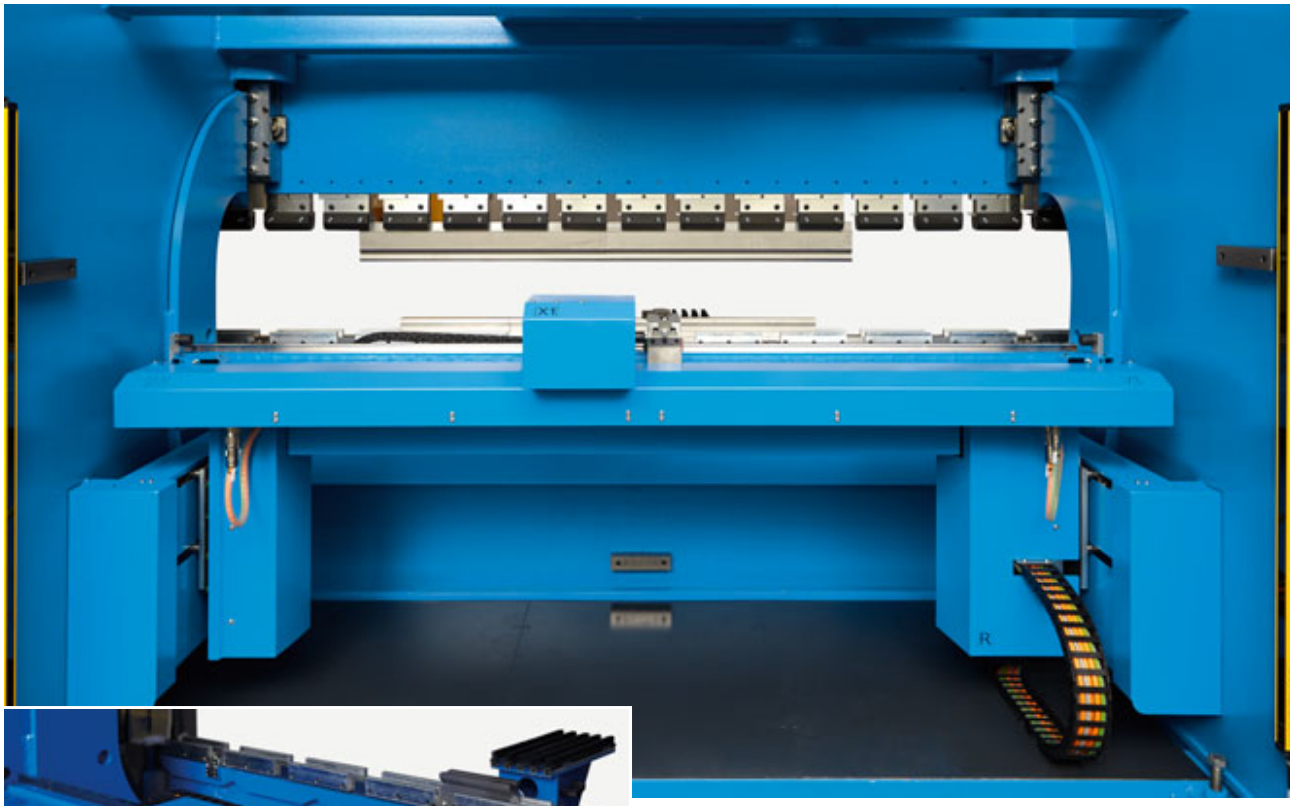
One of the highlights of the P brake is the Prima Electro Open control – also used in PS and PH brakes. The intuitive touch screen control is based on a 2D graphical interface with automatic bending sequencing. For programs made with the optional AutoPol off-line programming system the control features 3D simulation.

The standard configuration includes

- Prima Electro Open Control with 17" Touch Screen
- CNC controlled Y1, Y2 and a dual drive back gauge (X & R) with two back gauge fingers
- European style tool clamping with quick clamp intermediates. Included are also rear clamping plates for reverse tool mounting
- 100 kg payload front supports with brushes
- Lazer safe
- CE / UL compatible
- Hexa-C® frame

Optionally, the P brake can be equipped with Wila or Wilson tool clamping systems, hydraulic or pneumatic European style intermediates, a CNC controlled crowning table, CNC Z1 & Z2, R and relative movement X1 axes, table kits to adapt larger dies and a movable front support mounted on linear scales and CNC bending followers.

Precision through exact gauging



The 5-axis back gauge guarantees flexible and precise high speed gauging.

Ergonomic working environment

A dual articulation support arm with height adjustment enables flexible control panel positioning.

Support brush tables for easy part handling.

Ease of programming

Starting from the P model all Prima Power press brakes utilize the Prima Electro Open Control. For maximum processing speed this MS Windows 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.

The Prima Electro Open Control has a big hard disc, two USB ports and a network connection. It offers access to all control functions over teleservice.

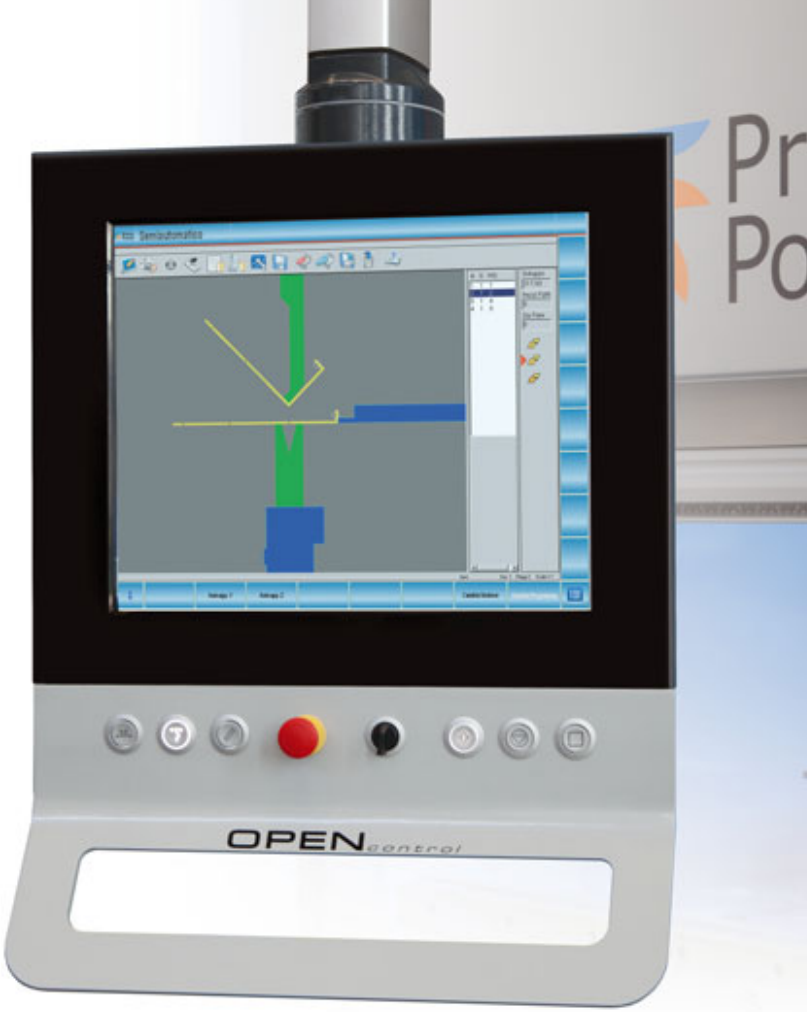
Most bending applications are easy to program by using the 2D graphical on-line programming with auto sequencing. As the demands may change in the course of time one may face the necessity of 3D off-line programming and 3D visualization of the parts in the machine control. The Prima Electro Open Control can at any time easily be SW-upgraded to meet this requirement.

AutoPOL off-line programming

AutoPOL is an easy-to-use and effective tool for off-line programming of all Prima Power P series brakes. 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 practically 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.

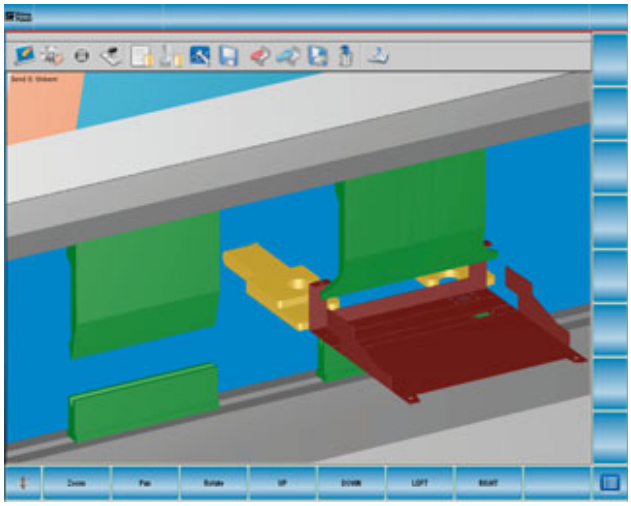
AutoPOL includes a **3D designer** for designing sheet metal parts, 2D and 3D file import functions, an **Unfolder** for automatic flat part calculation and a **Bend Simulator** for graphical programming and simulation.



2D programming with automatic bending sequencing

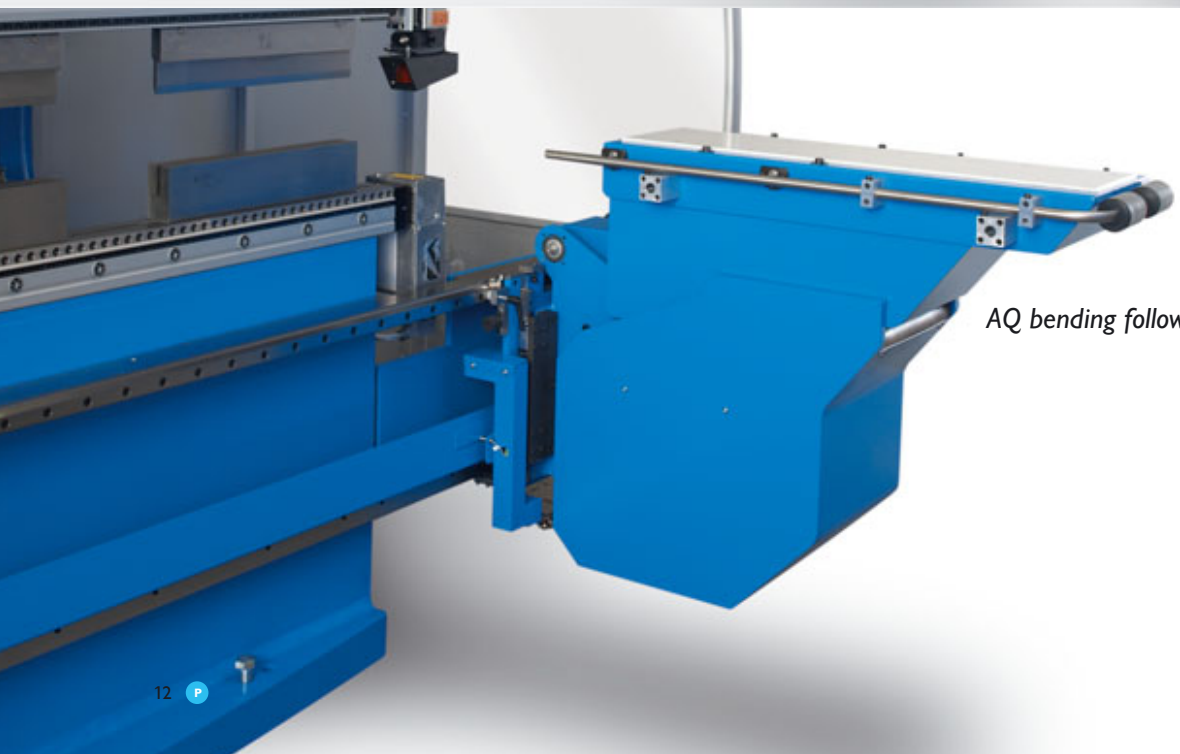
AutoPOL off-line programming

OPEN control 3D visualization of off-line programs

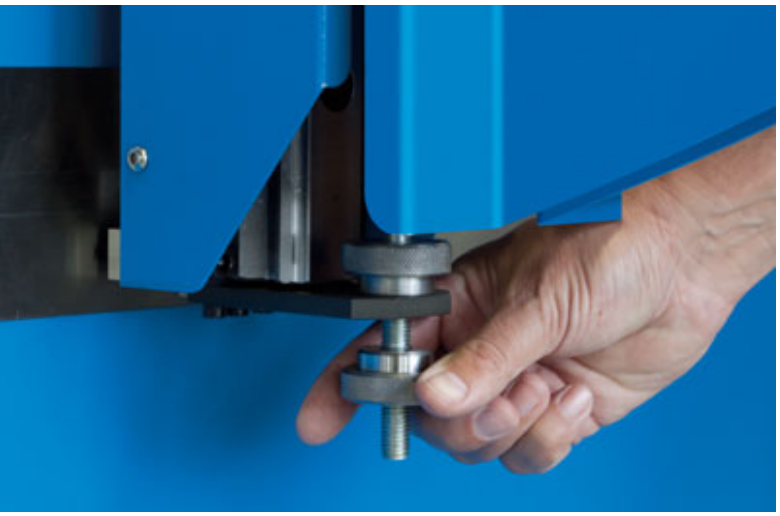


Advanced options

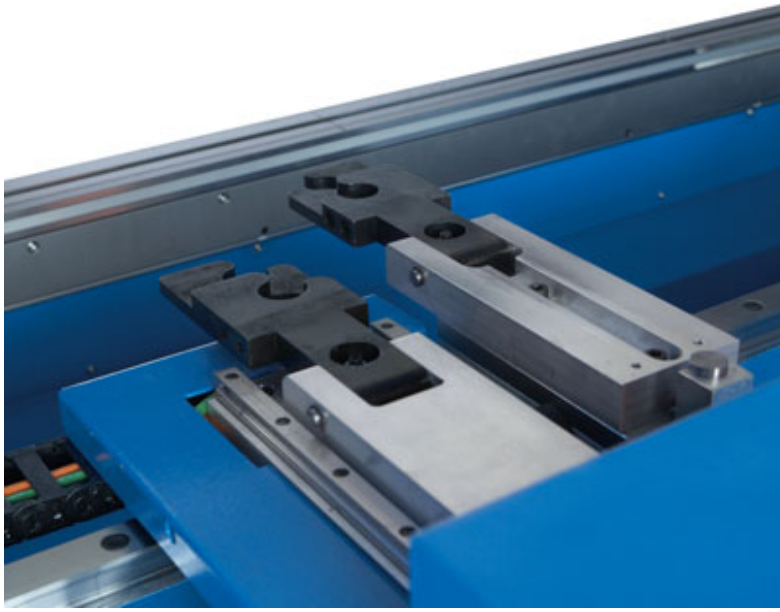
The ergonomics of bending big size panels can be significantly improved by the AQ bending follower. When the sheet is supported at the right time, angular deviation is reduced and material handling can be mastered by a single operator.



AQ bending follower in parking position



Movable front supports are equipped with keyless height adjustment; a spring loaded weight reduction system is included for ergonomic set-up work.



5-axis back gauge with an independent X1 movement of ± 100 mm

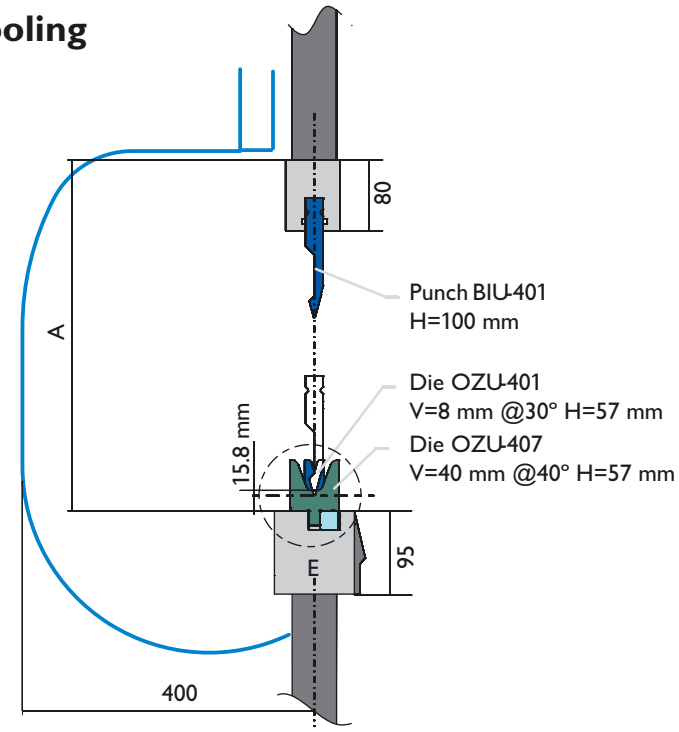
Pneumatically operated European style clamps allow vertical insertion and removal of tools. Even small segments can be removed separately leaving the adjoining tool segments safely fixed. The system aligns and seats the tools automatically.

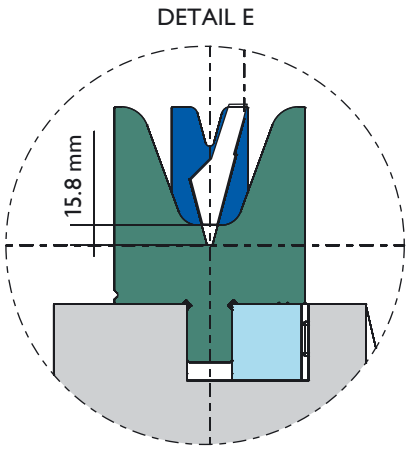
Wila tooling system meets the highest precision criteria and offers a continuous clamping bar. The symmetric clamping profile allows 180° tool swapping. Mechanical and hydraulic versions provide automatic tool alignment and seating. Tool segments equipped with safety clips can be inserted and removed vertically in any position along the clamping bar.

Technical data

P-Series Press Brakes		P-0620	P-0925	P-1330	P-1340
Capacity	kN	600	900	1,350	1,350
Working length	mm	2,000	2,500	3,000	4,000
Distance between housings	mm	1,550	2,050	2,550	3,150
Max. stroke	mm	260	260	260	260
(A) Max. open height	mm	445	445	445	445
(B) Max. open height	mm	500	500	500	500
Motor power	kW	5.5	7.5	15	15
Approach speed	mm/s	150	150	150	150
Working speed	mm/s	9	9	10	10
Return speed	mm/s	120	120	100	100
Stroke X	mm	625	625	625	625
Speed X	mm/s	800	800	800	800
Stroke R	mm	200	200	200	200
Speed R	mm/s	200	200	200	200
Stroke Z -Z1 /Z2	mm	90 to 1,150	90 to 1,650	90 to 2,150	90 to 2,750
Speed Z -Z1 /Z2	mm/s	1,200	1,200	1,200	1,200
Stroke X1	mm	± 100	± 100	± 100	± 100
Speed X1	mm/s	100	100	100	100
Lenght, CE / No-CE	mm	3,300 / 2,100	3,800 / 2,600	4,300 / 3,100	4,820 / 4,100
Width, CE / No-CE	mm	2,050 / 1,635	2,050 / 1,635	2,050 / 1,635	2,070 / 1,635
Height	mm	2,930	2,930	2,955	2,980
Transportation height	mm	2,670	2,670	2,695	2,720
Weight	kg	5,000	6,000	7,700	11,100

Work Station with Wila tooling



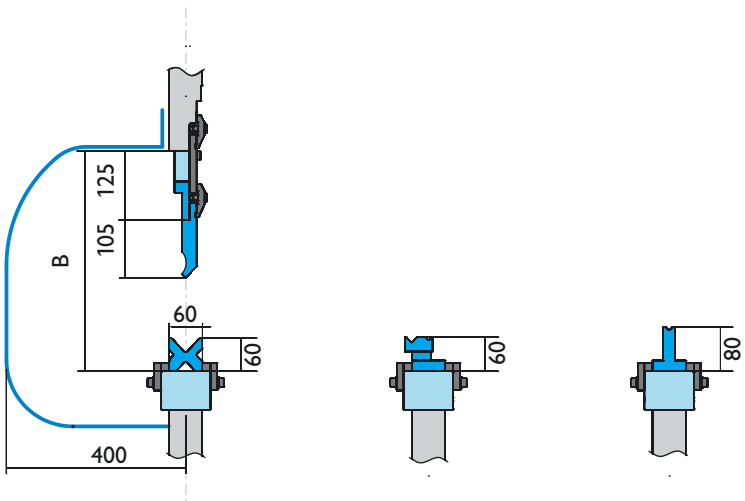


NOTE:
Penetration at bottom dead point

P-1630	P-1640	P-2230	P-2240
1,600	1,600	2,200	2,200
3,000	4,000	3,000	4,000
2,550	3,150	2,550	3,150
260	260	260	260
445	445	445	445
500	500	500	500
15	15	15	15
150	150	130	130
10	10	8	8
100	100	85	85
625	625	625	625
800	800	800	800
200	200	200	200
200	200	200	200
90 to 2,150	90 to 2,750	90 to 2,150	90 to 2,750
1,200	1,200	1,200	1,200
± 100	± 100	± 100	± 100
100	100	100	100
4,300 / 3,100	4,820 / 4,100	4,300 / 3,100	4,820 / 4,100
2,050 / 1,635	2,070 / 1,670	2,050 / 1,635	2,070 / 1,670
2,955	2,980	2,955	2,980
2,695	2,720	2,695	2,720
7,900	11,300	9,100	12,450

We reserve the right to change technical specifications without prior notice.

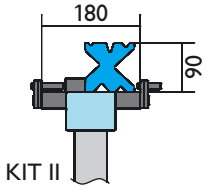
Work Station with European style tooling



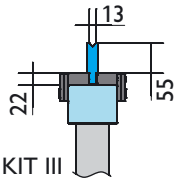
STANDARD VERSION FOR DIE BASE 60 mm

OPTION VERSIONS

FOR DIE 90 mm



FOR DIE TYPE "WILA"




Prima
Power
OPEN

PS brake for superior performance

The Prima Power PS brake stands for the outmost in flexibility and productivity. It has been designed for precision and high productivity in the most demanding manufacturing facilities.

The servo-hydraulic system has been designed to maximize ram speeds, which can reach up to 200 mm/sec both in approach and return. Working speed is programmable to ensure bending without loss of product quality or operator safety. The power boost function enables a maximum bending speed of 20mm/s, which can be used if allowed by local safety regulations.

Lazer Safe's "Block Laser" 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 that the back gauge will be ready when the part is presented for each operation.

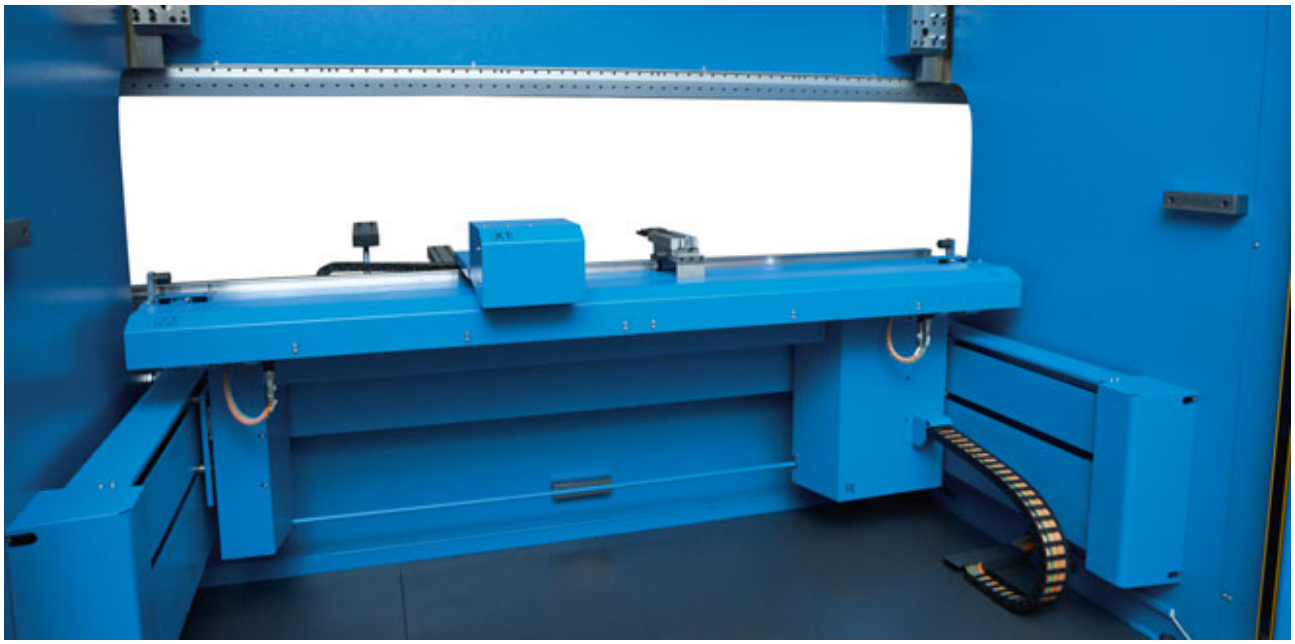
Each and every machine component of the Prima Power PS brake contributes to superior performance:

- Prima Electro Open Control
- Lazer Safe "Block Laser"
- Daylight 630 mm
- Stroke 400 mm
- Approaching and returning speeds up to 200 mm/s
- Wila,Wilson, European and American tooling systems
- Up to 6-axis high speed back gauges
- NC front supports
- Robot interface

Standards for superior performance

Prima Electro Open Control with 17" Touch Screen

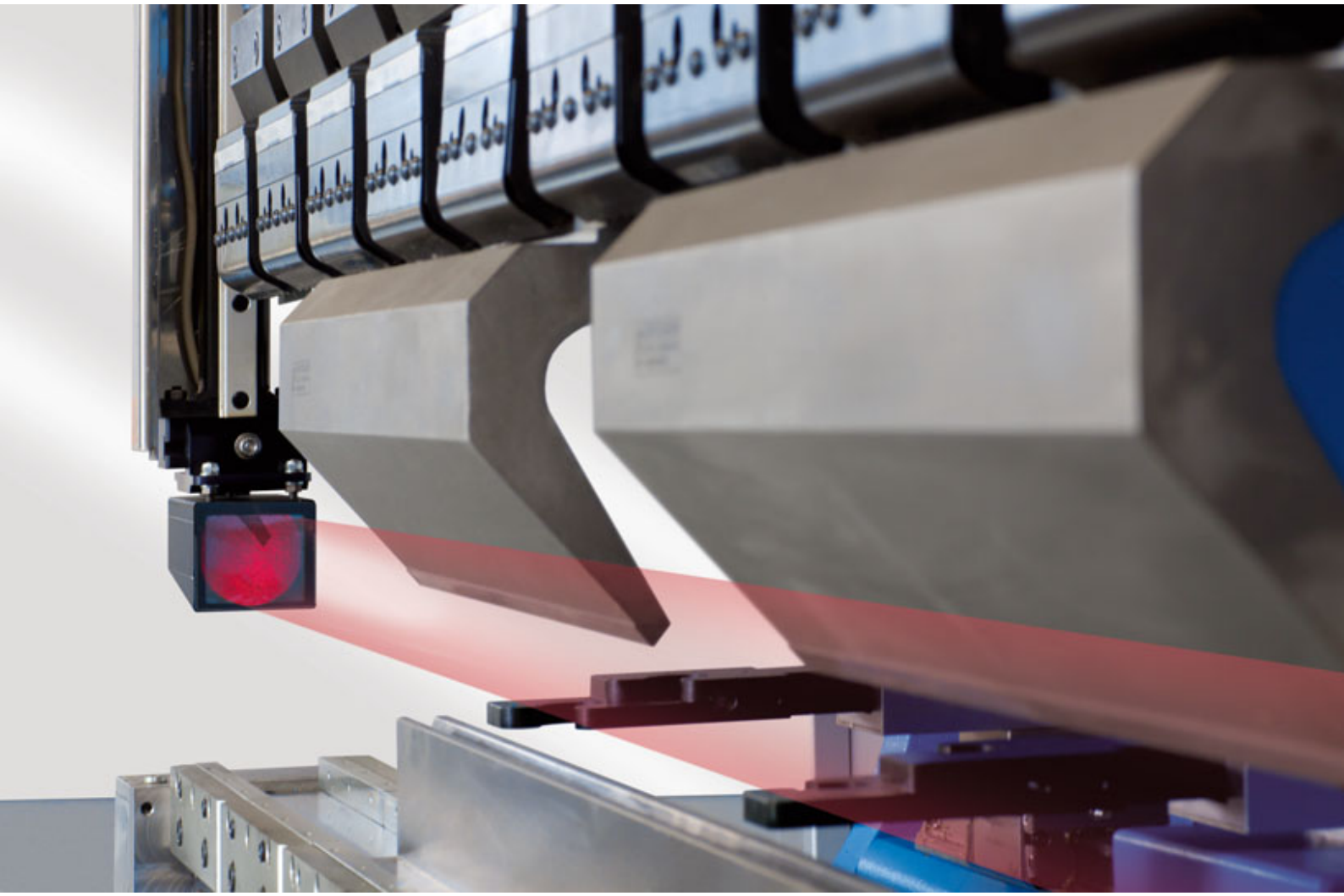
400 mm stroke and roll-guided ram



High speed gauging of parallel and non-parallel flanges with 5-axis back gauge.

Front supports with 100 kg payload each are mounted on linear rails and equipped with keyless height adjustment.

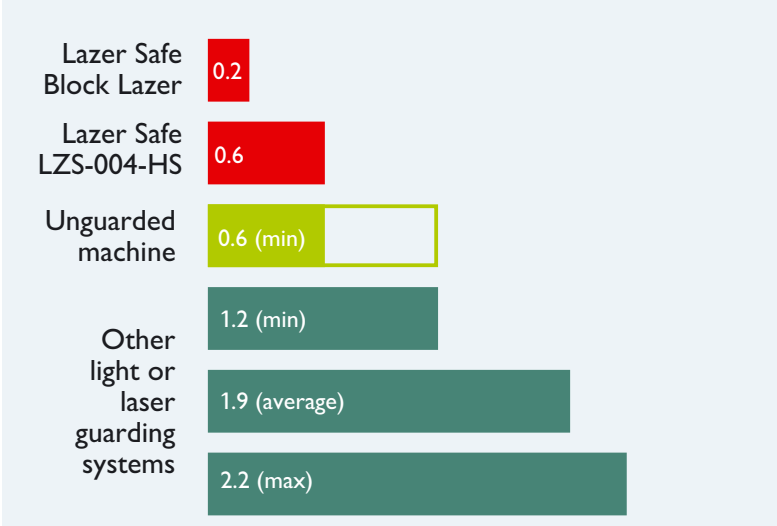
The state of the art in safety and productivity



The "Block Laser" 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 PS brake.

- Speed change 2 mm above material
- Allows the operator to work safely 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)
- Automatic alignment function in relation to tooling
- Fast removal with automatic repositioning for lateral tool changing

Block-lazer to maximize safety, productivity and tool crash protection

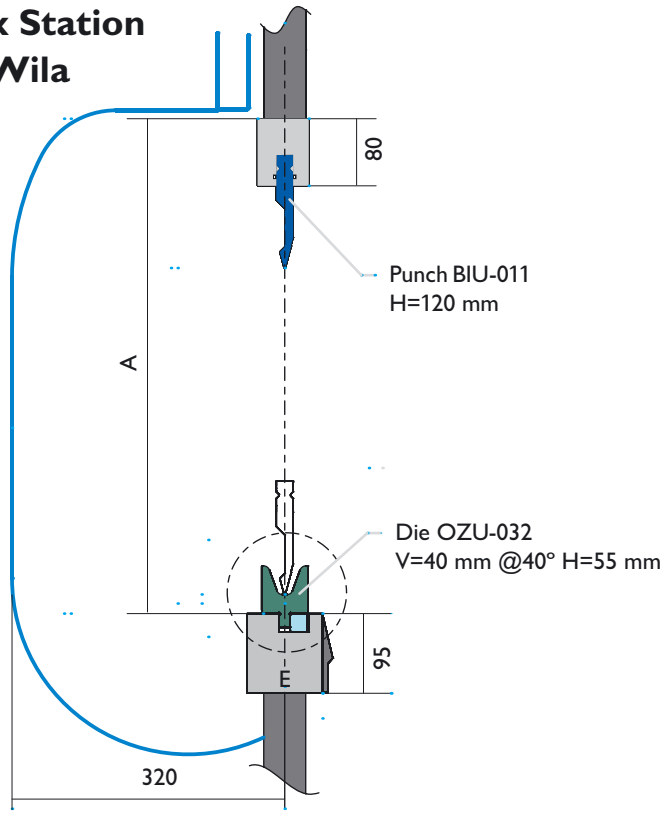


Comparison time in slow speed closing (seconds per cycle)

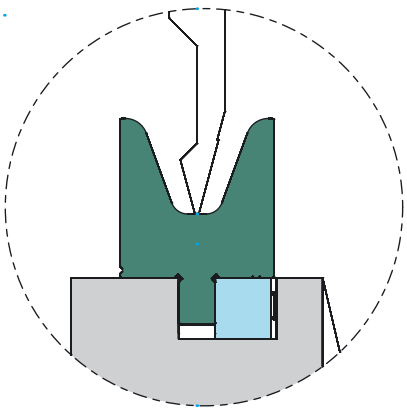
Technical data

PS Series PressBrake		P-0620 S	P-0925 S	P-1330 S	P-1630 S
Bending capacity	kN	600	900	1,350	1,600
Bending length	mm	2,000	2,500	3,000	3,000
Distance between housings	mm	1,550	2,050	2,550	2,550
Max. stroke	mm	400	400	400	400
Max. daylight [A]	mm	620	620	620	620
Max. daylight [B]	mm	630	630	630	630
Motor power	kW	7.5	11	22	22
Approaching speed	mm/s	220	220	200	180
Working speed, max. *	mm/s	10 / 20	10 / 20	10 / 20	10 / 20
Return speed	mm/s	240	240	200	200
Travel X axis	mm	625	625	625	625
Speed X axis	mm/s	800	800	800	800
Travel R axis	mm	200	200	200	200
Speed R axis	mm/s	200	200	200	200
Travel Z –Z1 /Z2	mm	80 – 1,170	80 – 1,670	80 – 2,170	80 – 2,170
SpeedZ –Z1 /Z2	mm/s	1,200	1,200	1,200	1,200
Travel axis X1	mm	± 100	± 100	± 100	± 100
Speed X1	mm/s	100	100	100	100
Overall length, CE / No-CE	mm	3,280 / 2,200	3,780 / 2,700	4,300 / 3,200	4,300 / 3,200
Overall depth, CE / No-CE	mm	2,030 / 1,600	2,030 / 1,610	2,030 / 1,620	2,030 / 1,620
Overall height	mm	3,200	3,360	3,380	3,380
Transport height	mm	2,800	2,950	2,980	2,980
Weight approx.	kg	6,000	7,000	9,000	9,200

Work Station with Wila



DETAIL E

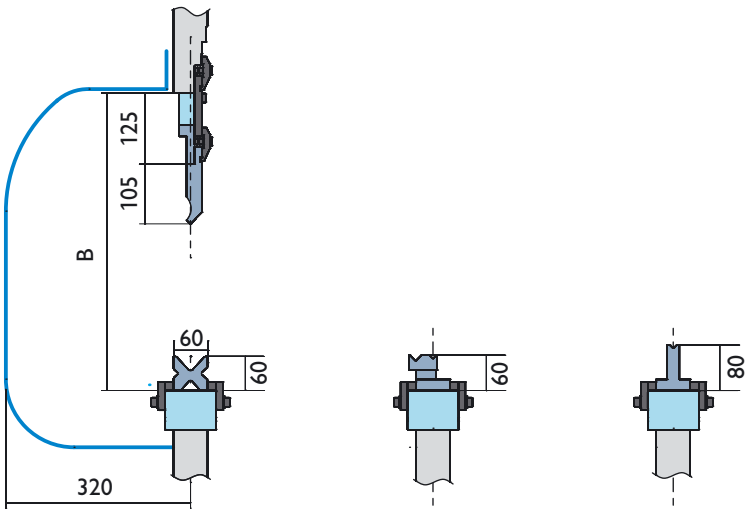


NOTE:
Penetration at bottom dead point.

P-1640 S	P-2230 S	P-2240 S	
1,600	2,200	2,200	
4,000	3,000	4,000	
3,150	2,550	3,150	
400	400	400	
620	620	620	
630	630	630	
22	22	22	
200	170	170	
10 / 20	8 / 18	8 / 18	According to local safety regulations
200	170	170	
625	625	625	
800	800	800	
200	200	200	
200	200	200	
80 – 2,770	80 – 2,170	80 – 2,770	
1,200	1,200	1,200	
± 100	± 100	± 100	
100	100	100	
4,820 / 4,200	4,300 / 3,200	4,820 / 4,200	
2,030 / 1,620	2,030 / 1,620	2,030 / 1,620	
3,380	3,380	3,380	
2,980	2,980	2,980	
13,200	11,900	14,100	

We reserve the right to change technical specifications without prior notice.

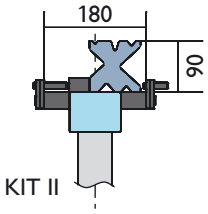
Work Station with European Style tooling



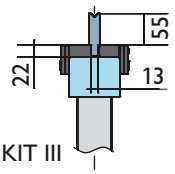
STANDARD VERSION FOR DIE BASE 60 mm

OPTION VERSIONS

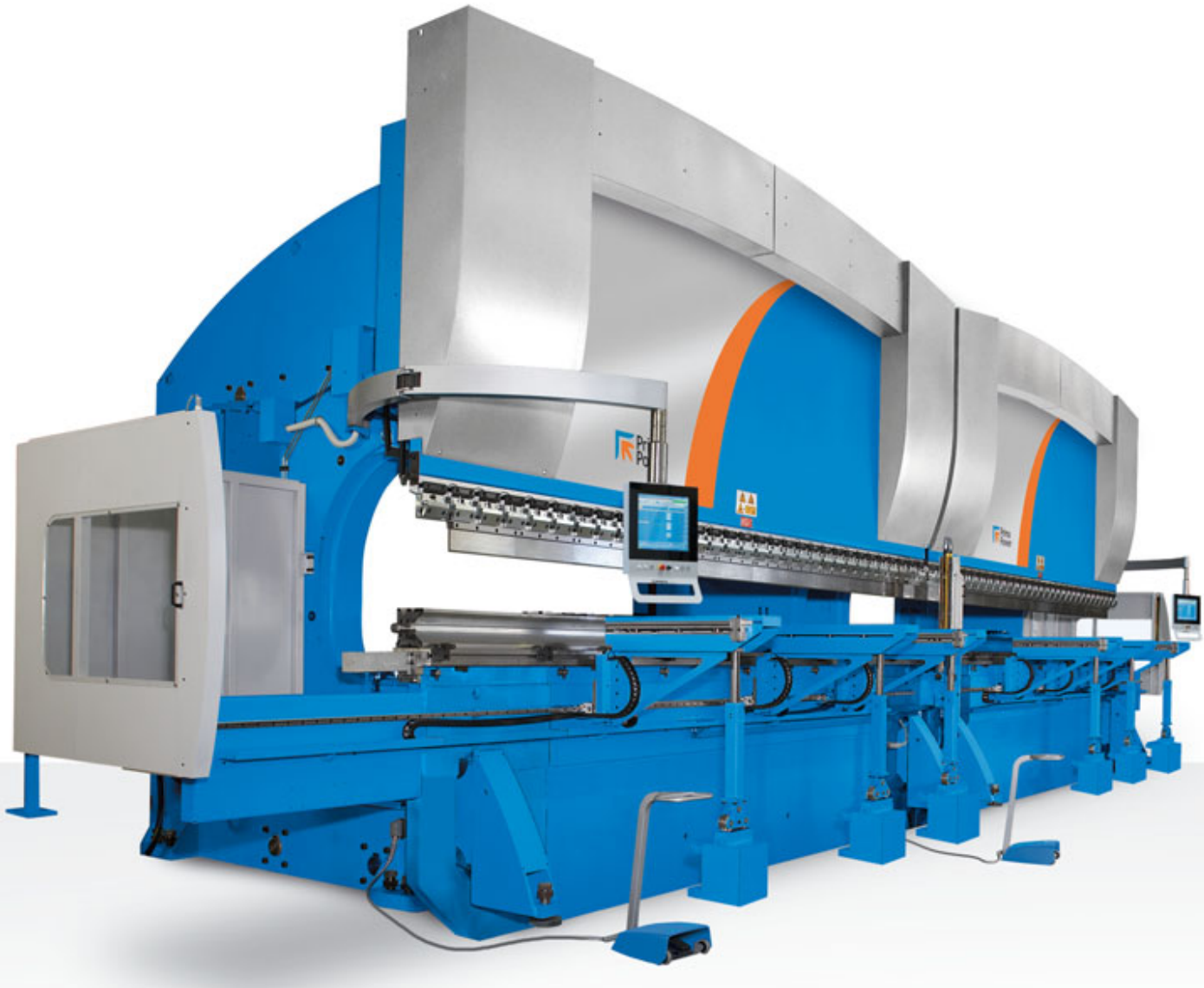
FOR DIE 90 mm



FOR DIE TYPE "WILA"



Prima Power PH for heavy-duty applications

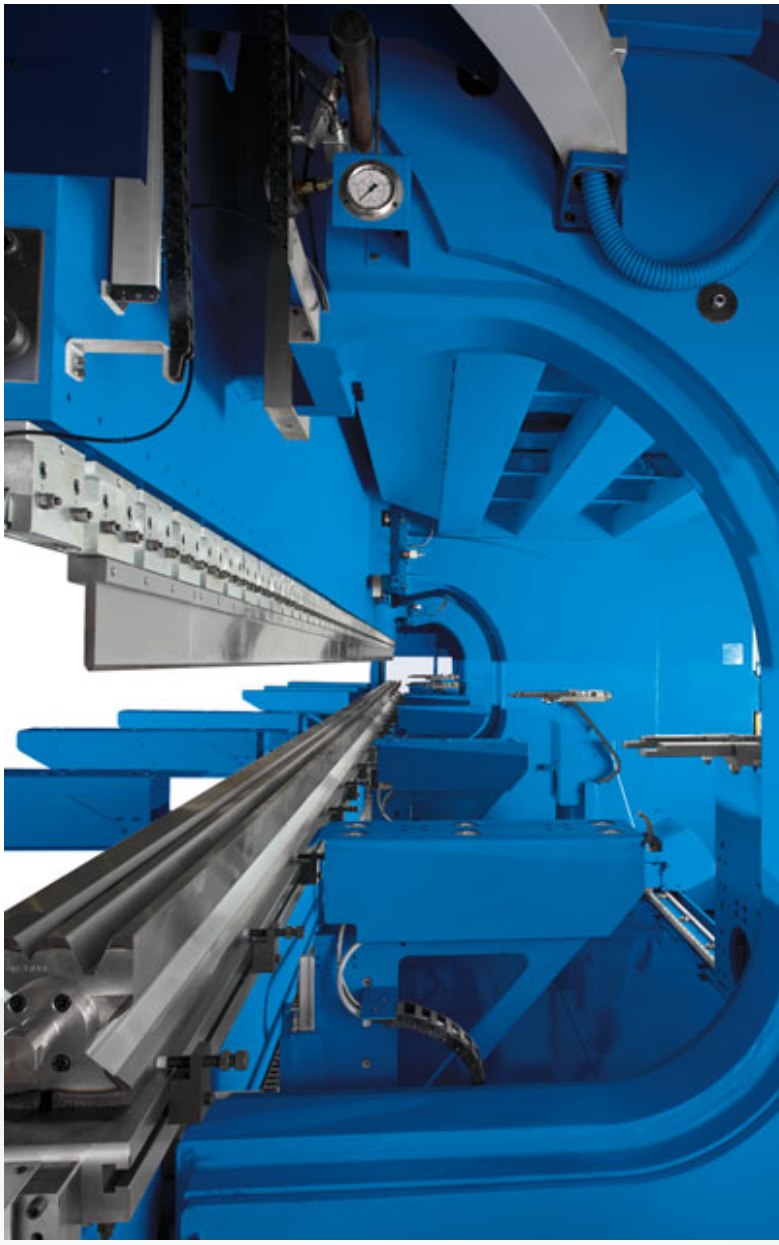


PH Series Press Brakes (P-### H)		3060	3070	4040	4060	4070	5040	5060	5070
Capacity	kN	3,000	3,000	4,000	4,000	4,000	5,000	5,000	5,000
Working length	mm	6,100	7,100	4,100	6,100	7,100	4,100	6,100	7,100
Distance between housings	mm	5,100	6,150	3,150	5,100	6,150	3,150	5,100	6,150
Max. stroke	mm	250	250	250	250	250	250	250	250
Max. open height	mm	530	530	530	530	530	530	530	530
Throat depth	mm	400	400	400	400	400	400	400	400
Motor power	kW	18	18	30	30	30	30	30	30
Approach speed	mm/s	100	100	100	100	100	100	100	100
Working speed	mm/s	8	8	9	9	9	8.5	8.5	8.5
Return speed	mm/s	100	100	90	90	90	75	75	75
Length	mm	6,550	7,650	4,400	6,550	7,650	4,400	6,550	7,650
Width	mm	2,000	2,000	2,300	2,300	2,300	2,350	2,350	2,350
Height	mm	3,500	3,950	3,450	3,700	4,050	3,650	4,280	4,600
Workstation height w/ tools	mm	1,100	860	1,000	860	860	1,080	860	860
Underfloor distance	mm	–	1,500	–	1,400	1,900	–	1,500	1,900
Approx. weight	kg	35,000	40,000	25,000	38,000	44,000	32,000	45,000	59,000

Whenever thick materials, long parts and customer specific options are concerned, PH-series is the solution. The wide product range of standard sizes covers bending applications up to 9 meter bending length and up to 1,600 ton bending force. Standard strokes and daylights are generously dimensioned. In addition, various front supports and back gauge solutions up to 9 axes are available for optimizing the bending process.

To meet requests exceeding the standard range the PH brakes can be built in tandem for longer parts as well as in reinforced execution for higher tonnages. The PH brakes are often customized according to specific bending applications starting from part feasibility studies – and this is where the decades of experience make the difference. Special tooling solutions, extra long strokes, oversize daylights, deeper gaps and special beds are some of the means in defining the optimal production solution for any particular application. In addition, automation solutions for part support, extraction and feeding are frequently applied to increase our customers' productivity.

Think big – PH will meet your production requirements.



6040	6060	6070	8060	8070	11060	11070	11080	13560	13570	13590	16075
6,000	6,000	6,000	8,000	8,000	11,000	11,000	11,000	13,500	13,500	13,500	16,000
4,100	6,100	7,100	6,100	7,100	6,100	7,100	8,100	6,100	7,100	9,100	7,500
3,150	5,100	6,150	5,100	6,150	5,100	6,150	6,800	5,100	6,150	8,100	6,200
300	300	300	300	300	300	300	300	300	300	300	640
600	600	600	600	600	700	700	700	700	700	700	1,000
400	400	400	400	400	400	400	400	400	400	400	640
37	37	37	45	45	55	55	55	2x30	2x30	2x30	2x55
100	100	100	100	100	100	100	100	100	100	100	70
7.5	7.5	7.5	7.5	7.5	7	7	7	6.5	6.5	6.5	8.5
75	75	75	75	75	80	80	80	90	90	90	90
4,400	6,650	7,650	6,550	7,650	6,550	7,650	8,650	6,550	7,650	9,650	8,700
2,600	2,600	2,600	2,700	2,700	2,900	2,900	2,900	3,200	3,200	3,200	3,250
4,200	4,450	4,700	4,600	4,900	4,700	5,050	5,430	5,300	5,600	5,900	5,700
1,100	860	860	860	860	860	860	860	860	860	860	850
–	1,500	2,000	1,750	2,100	2,000	2,250	2,400	2,600	2,850	3,025	2,850
42,000	50,000	64,000	70,000	79,000	92,000	112,000	125,000	100,000	115,000	140,000	150,000

We reserve the right to change technical specifications without prior notice.

Prima Power

The Bend
The Combi
The Laser
The Punch
The System
The Software

Servo-hydraulic bending technology by Prima Power

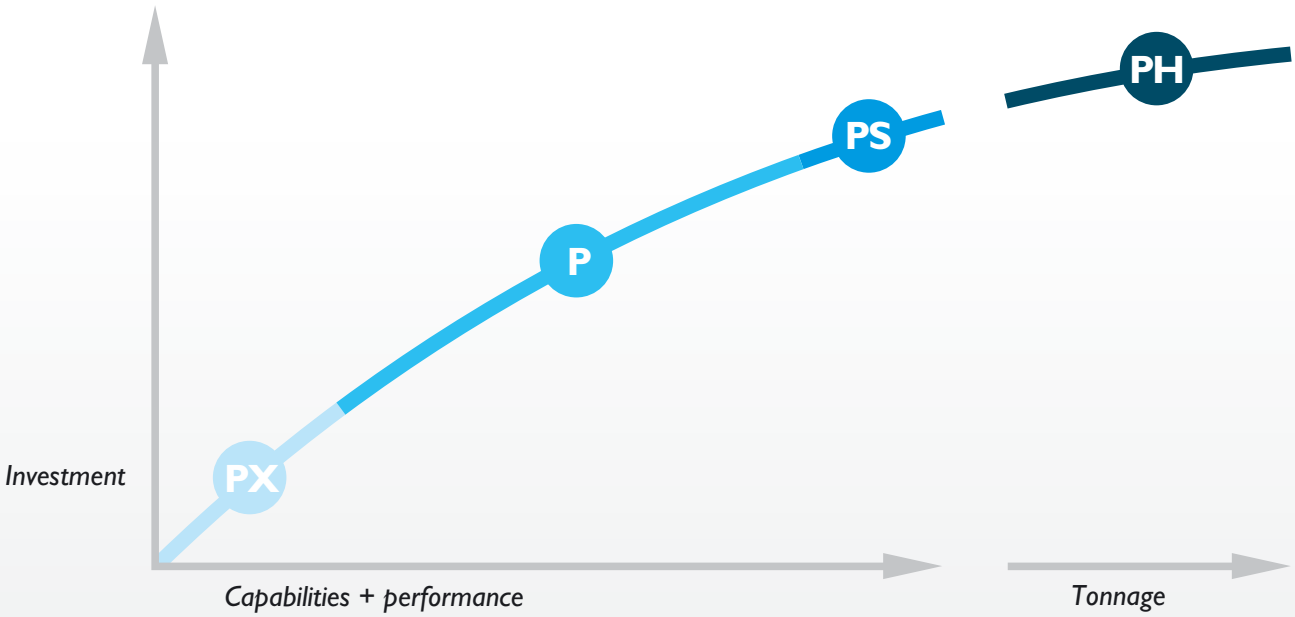
Servo-hydraulic Prima Power bending technology

Prima Power is recognized as a premier builder of fabricating equipment worldwide and its new P series servo-hydraulic press brakes makes no exception to this tradition.

To meet the most varied bending application and production requirements the P series comes in four different versions. The right choice between PX, P, PS and PH versions guarantees the optimum combination of performance and investment cost for any production task.

P series assembly lines

A common feature to all P series press brakes is a modular design platform, decades of experience, state-of-the-art machine construction and the latest in control technology, as well as 100 % design and manufacturing in Europe.



PX

THE BASIC SOLUTION

PX is the basic solution in the product range. High degree of standardization leads to limited number of machine types and very affordable prices.

P

WIDE RANGE OF MODELS

P version offers a wide range of models from 60 to 220 tons and a wide range of different options.

PS

SUPERIOR PERFORMANCE

PS guarantees superior performance to meet the most demanding targets in productivity and flexibility.

PH

FOR HEAVY DUTY BENDING

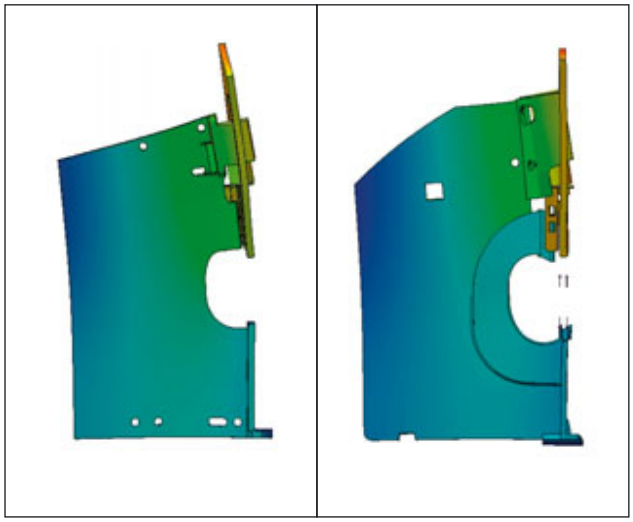
PH has been designed for heavy duty applications and to provide customer specific solutions.

Patented Hexa-C® frame with PX an P series brakes

The **patented structural concept Hexa-C®** ensures that the upper and lower beam remain aligned in any load condition contrary to what occurs in conventional C-structures. The upper beam guiding is fixed on reinforced "false C-frames" that guarantee perfect ram alignment independently of the side frame deformation.

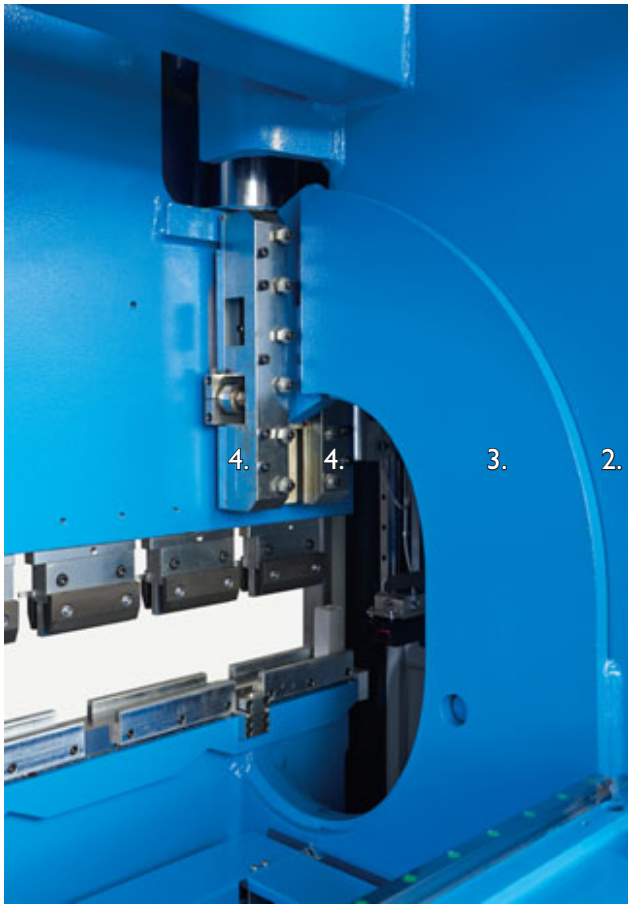
Hexa-C® advantages:

- Improved bending accuracy because movable beam remains perfectly aligned with fixed beam .
- Largest immunity to structure torsion effects in case of bending not in the center of the machine.
- Combine traditional function of strengthening the structure of "false C" with the function guiding support.
- The Hexa-C® philosophy present advantages in terms of sturdiness resulting therefore on a lighter frame and, consequently, lower environmental impact.



Conventional C-Frame *Patented Hexa-C® frame*

1. External C frame.
2. Side frame.
3. Internal C frame.



4. Ram guiding fixed on additional C-frames.

PX brake – a reliable basic solution

The PX series is built in three sizes based on a modular product structure. The design guideline "keep it simple" has lead to a high degree of standardization and well approved constructions. Reliability and affordable prices are direct derivatives of this approach.

Even though PX brakes represent the entry level in the Prima Power P-series no compromises have been made in terms of accuracy and reliability. Combining modern scientific calculations with decades of experience in machine tool building and construction is the foundation of the new PX series press brake.

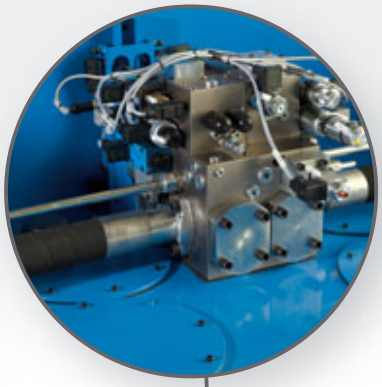
The solid PX architecture is based on a FEM optimized welded main frame based on the patented Hexa-C® structural concept. The working principle of PX brakes is based on electronic synchronized hydraulic drives that allow programmable bending speed as well as off-center and conic bending. Short set-up times for correct angles and ease of use are further advantages.

State of the art Lazer Safe safety guarding and a user friendly CNC control ensure easy and safe working with the PX-brake. All in all, the PX concept guarantees high accuracy combined with a high degree of reliability and safety.

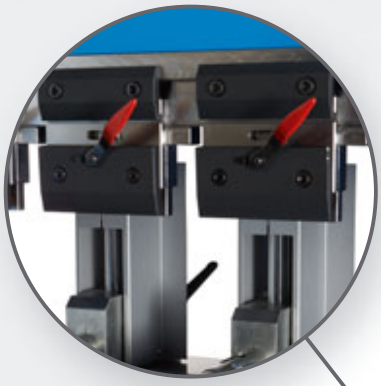
The standard configuration includes
- AD10 control with 7" colour screen
- CNC controlled Y1, Y2 and X axes with two back gauge fingers
- European style tool clamping with quick clamp intermediates
- 150 kg payload front supports
- Lazer safe
- CE / UL compatibility
- Hexa-C® frame

Optionally, the PX can be equipped with a 2D graphical, auto-sequencing programming interface, a CNC controlled crowning table, a CNC R-axis, table kits to adapt larger dies and a movable front support mounted on linear scales.

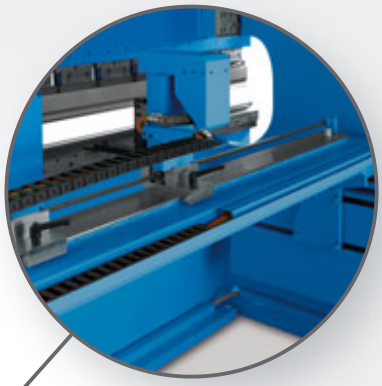
100 % European design and manufacturing invite for a closer look



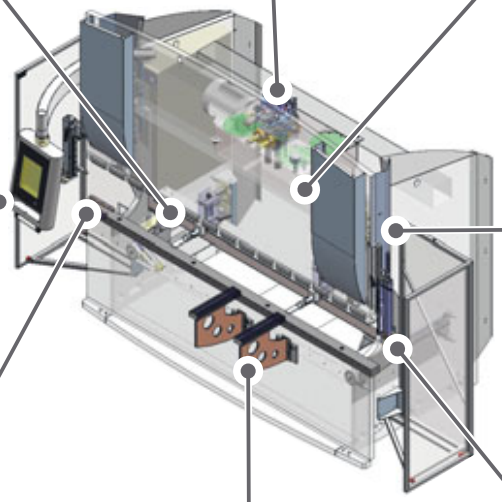
Synchronized servo-hydraulics



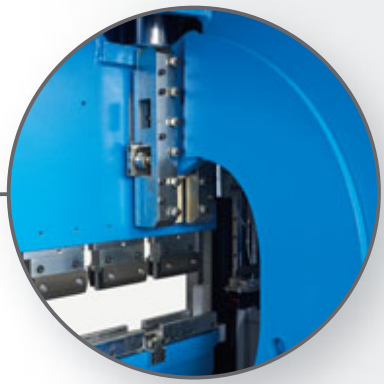
European style intermediates with quick clamp handles



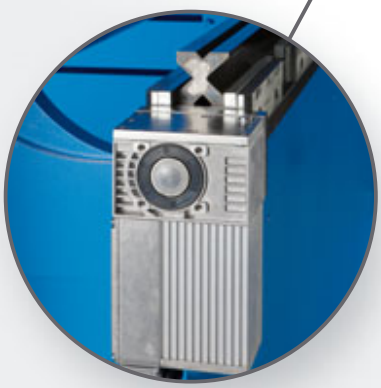
Back gauge up to four axis (X, R, Z1 and Z2)



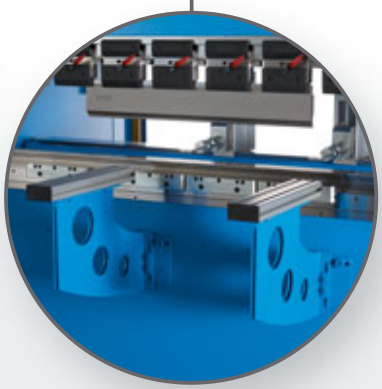
Graphical 2D programming with automatic bending sequence calculation (option)



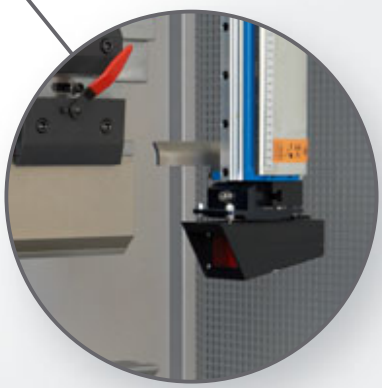
Hexa-C® frame construction



CNC Crowning (Option) compensates the bending line deflection and helps thus obtain constant angles.



Front supports with 150 kg payload each



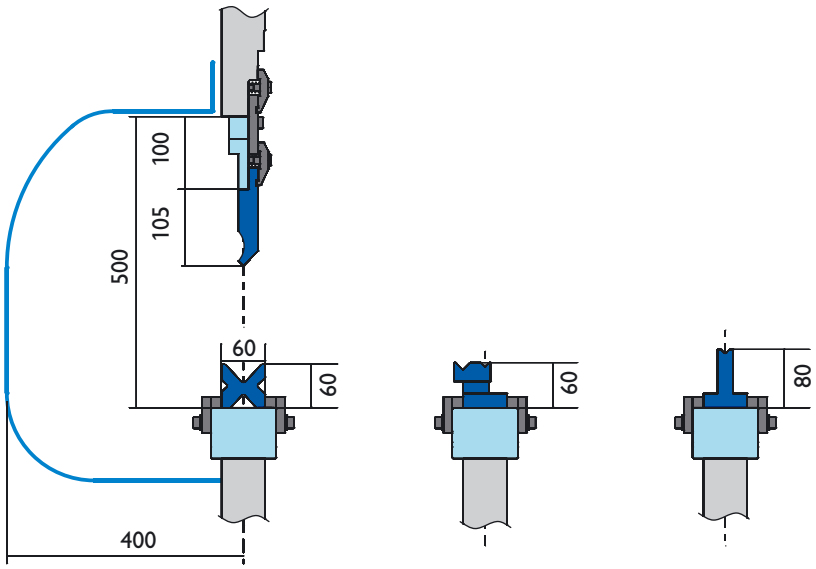
Lazer Safe safety equipment for safety and productivity

Technical data

PX Series Press Brakes		P-0620X	P-0925X	P-1330X	P-1340X	P-1630X	P-1640X	P-2240X
Capacity	kN	60	90	1,350	1,350	1,600	1,600	2,200
Working length	mm	2,000	2,500	3,000	4,000	3,000	4,000	4,000
Distance between housings	mm	1,550	2,050	2,550	3,150	2,550	3,150	3,150
Max. stroke	mm	260	260	260	260	260	260	260
Motor power	kW	5.5	5.5	7.5	7.5	9	9	15
Approach speed	mm/s	110	110	110	110	110	110	110
Working speed	mm/s	9	9	7	7	7	7	8
Return speed	mm/s	120	120	70	70	70	70	85
Stroke X	mm	625	625	625	625	625	625	625
Speed X	mm/s	350	350	350	350	350	350	350
Stroke R	mm	150	150	150	150	150	150	150
Speed R	mm/s	50	50	50	0	50	50	50
Stroke Z -Z1 /Z2	mm	80 to1,270	80 to 1,770	80 to 2,170	80 to 2,170	80 to 2,170	80 to 2,770	80 to 2,770
Speed Z -Z1 /Z2	mm/s	400	400	400	400	400	400	400
Lenght, CE / No-CE	mm	3,300 /2,100	3,800 / 2,600	4,300 / 3,100	4,820 / 4,100	4,300 / 3,100	4,820 / 4,100	4,820 / 4,100
Width, CE / No-CE	mm	2,050 / 1,635	2,050 / 1,635	2,050 / 1,635	2,050 / 1,635	2,050 / 1,635	2,050 / 1,635	2,070 / 1,670
Height	mm	2,930	2,930	2,955	2,980	2,955	2,980	2,980
Transportation height	mm	2,670	2,670	2,695	2,720	2,695	2,720	2,720
Weight	kg	4,800	5,800	7,500	10,900	7,700	11,100	12,250

We reserve the right to change technical specifications without prior notice.

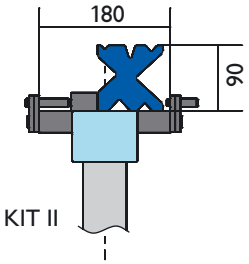
Work station



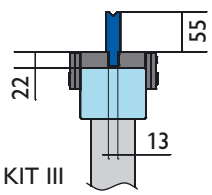
STANDARD VERSION
FOR DIE BASE 60 mm

OPTION VERSIONS

FOR DIE 90 mm



FOR DIE TYPE "WILA"



P brake for advanced versatility in machine configurations

The Prima Power P series press brake offers an advanced level of versatility. Its design platform is modular and standardized, which allows a wide offering of variations combined with affordable pricing. It has been designed to be a many sided solution for industries requiring flexibility and productivity.

The daylight opening, ram speed and tooling solutions have been studied in relation to each other in order to meet high productivity and flexibility requirements. Ram speeds exceeding 100 mm/s and the combination of Lazer Safe safety equipment and fast back gauge positioning speeds lead to increased productivity.

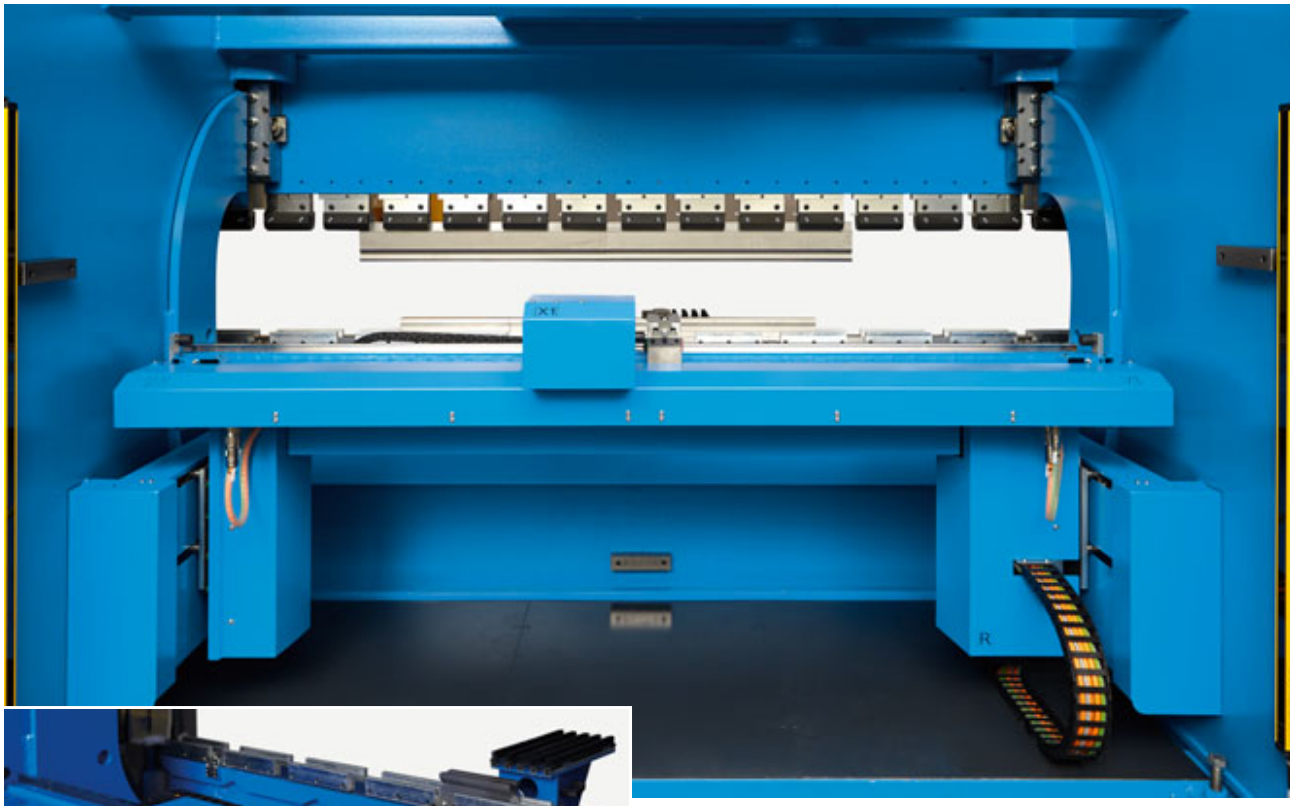
One of the highlights of the P brake is the Prima Electro Open control – also used in PS and PH brakes. The intuitive touch screen control is based on a 2D graphical interface with automatic bending sequencing. For programs made with the optional AutoPol off-line programming system the control features 3D simulation.

The standard configuration includes

- Prima Electro Open Control with 17" Touch Screen
- CNC controlled Y1, Y2 and a dual drive back gauge (X & R) with two back gauge fingers
- European style tool clamping with quick clamp intermediates. Included are also rear clamping plates for reverse tool mounting
- 100 kg payload front supports with brushes
- Lazer safe
- CE / UL compatible
- Hexa-C® frame

Optionally, the P brake can be equipped with Wila or Wilson tool clamping systems, hydraulic or pneumatic European style intermediates, a CNC controlled crowning table, CNC Z1 & Z2, R and relative movement X1 axes, table kits to adapt larger dies and a movable front support mounted on linear scales and CNC bending followers.

Precision through exact gauging



The 5-axis back gauge guarantees flexible and precise high speed gauging.

Ergonomic working environment

A dual articulation support arm with height adjustment enables flexible control panel positioning.

Support brush tables for easy part handling.

Ease of programming

Starting from the P model all Prima Power press brakes utilize the Prima Electro Open Control. For maximum processing speed this MS Windows 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.

The Prima Electro Open Control has a big hard disc, two USB ports and a network connection. It offers access to all control functions over teleservice.

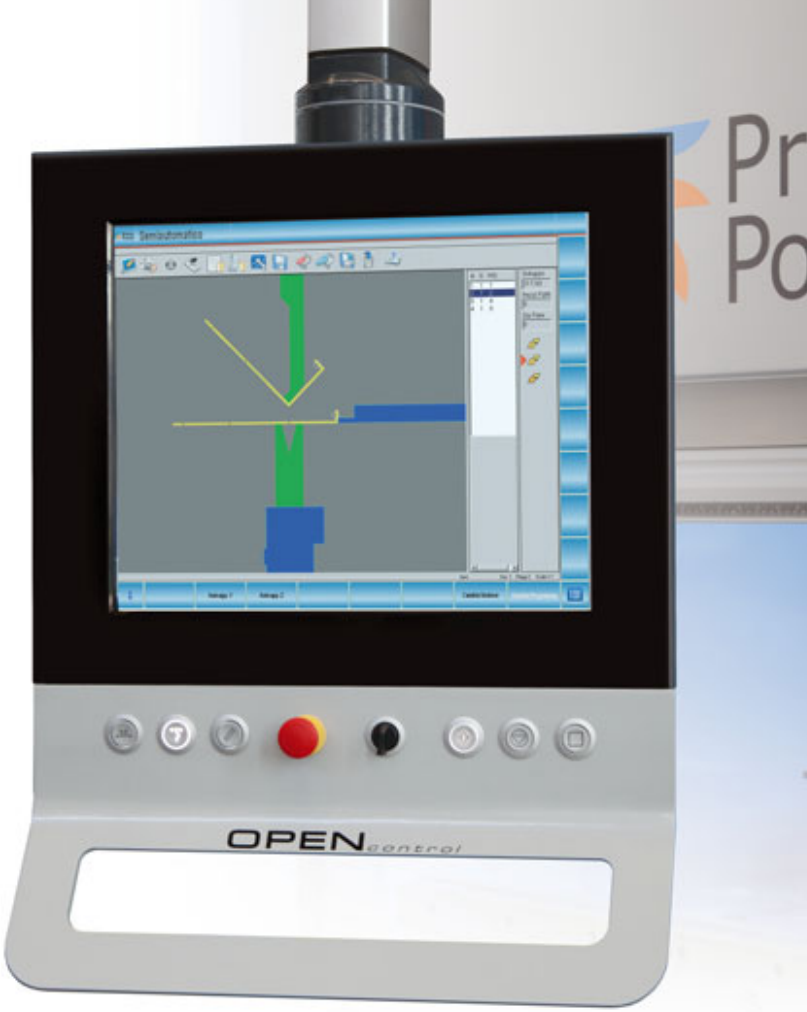
Most bending applications are easy to program by using the 2D graphical on-line programming with auto sequencing. As the demands may change in the course of time one may face the necessity of 3D off-line programming and 3D visualization of the parts in the machine control. The Prima Electro Open Control can at any time easily be SW-upgraded to meet this requirement.

AutoPOL off-line programming

AutoPOL is an easy-to-use and effective tool for off-line programming of all Prima Power P series brakes. 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 practically 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.

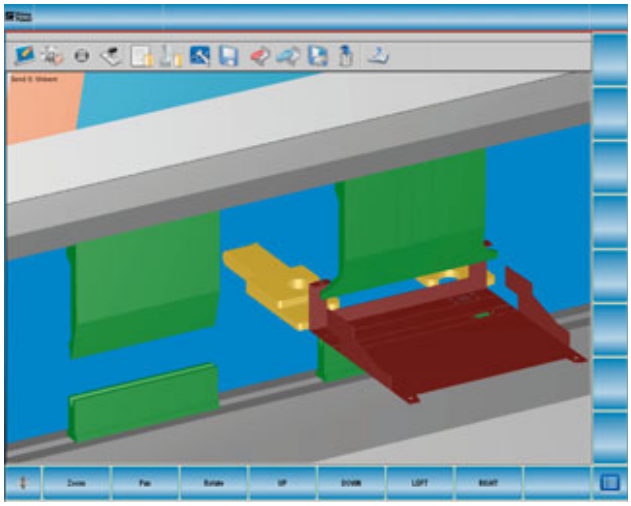
AutoPOL includes a **3D designer** for designing sheet metal parts, 2D and 3D file import functions, an **Unfolder** for automatic flat part calculation and a **Bend Simulator** for graphical programming and simulation.



2D programming with automatic bending sequencing

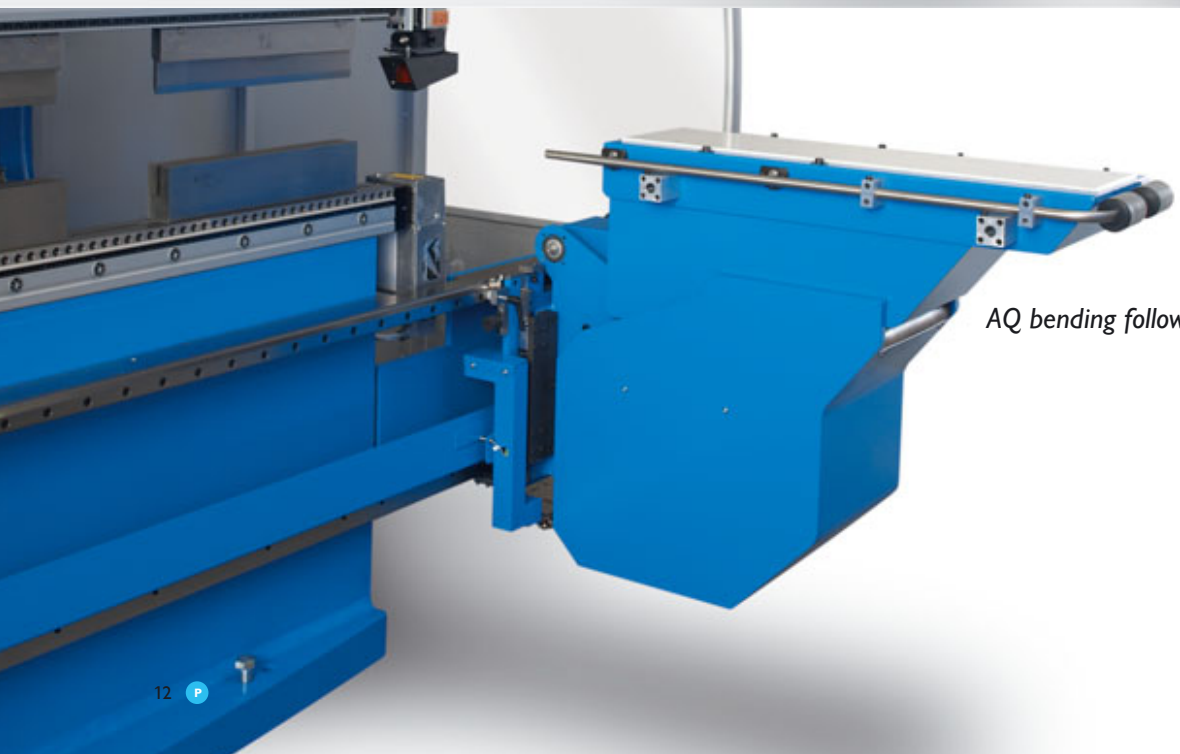
AutoPOL off-line programming

OPEN control 3D visualization of off-line programs

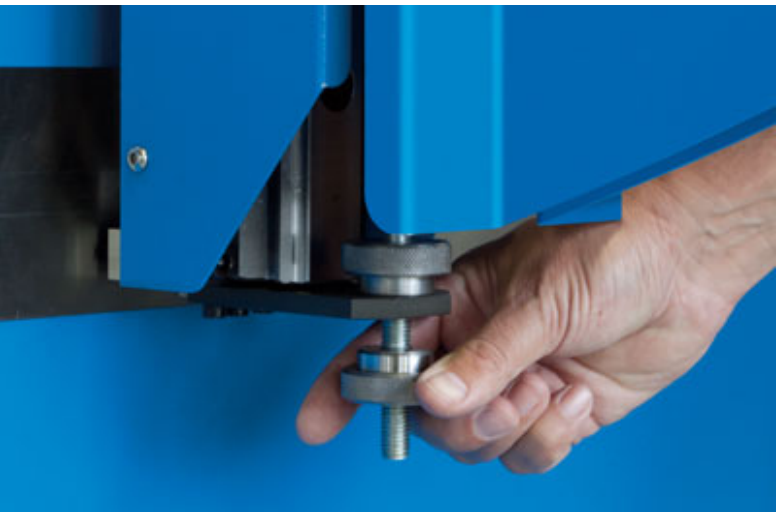


Advanced options

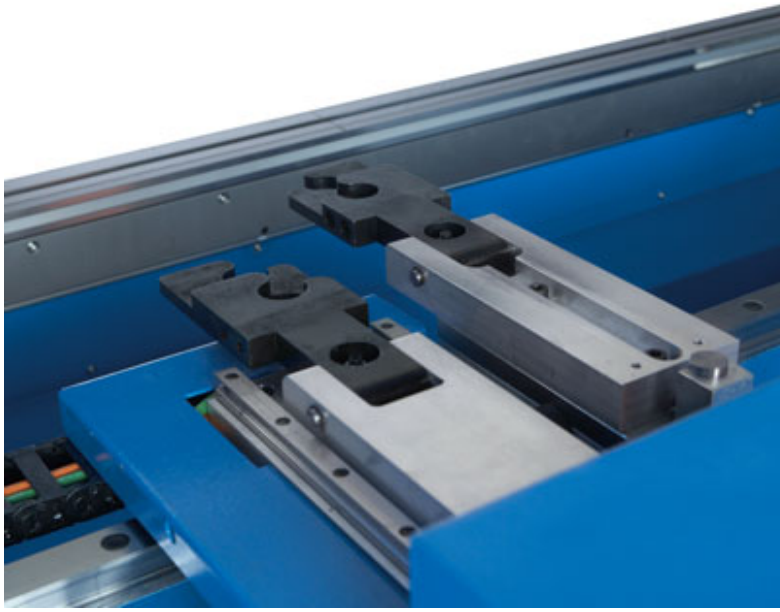
The ergonomics of bending big size panels can be significantly improved by the AQ bending follower. When the sheet is supported at the right time, angular deviation is reduced and material handling can be mastered by a single operator.



AQ bending follower in parking position



Movable front supports are equipped with keyless height adjustment; a spring loaded weight reduction system is included for ergonomic set-up work.



5-axis back gauge with an independent X1 movement of ± 100 mm

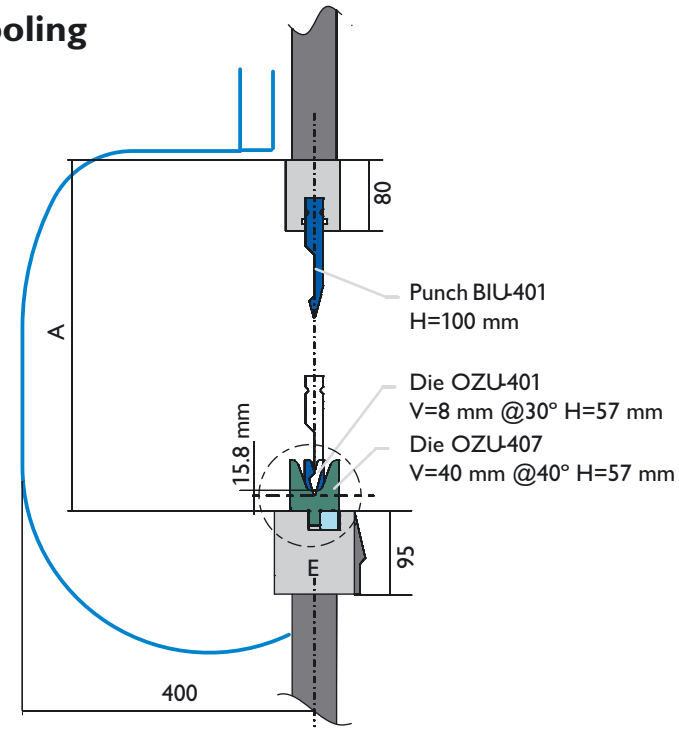
Pneumatically operated European style clamps allow vertical insertion and removal of tools. Even small segments can be removed separately leaving the adjoining tool segments safely fixed. The system aligns and seats the tools automatically.

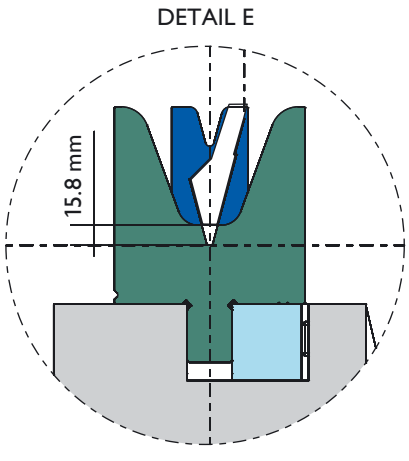
Wila tooling system meets the highest precision criteria and offers a continuous clamping bar. The symmetric clamping profile allows 180° tool swapping. Mechanical and hydraulic versions provide automatic tool alignment and seating. Tool segments equipped with safety clips can be inserted and removed vertically in any position along the clamping bar.

Technical data

P-Series Press Brakes		P-0620	P-0925	P-1330	P-1340
Capacity	kN	600	900	1,350	1,350
Working length	mm	2,000	2,500	3,000	4,000
Distance between housings	mm	1,550	2,050	2,550	3,150
Max. stroke	mm	260	260	260	260
(A) Max. open height	mm	445	445	445	445
(B) Max. open height	mm	500	500	500	500
Motor power	kW	5.5	7.5	15	15
Approach speed	mm/s	150	150	150	150
Working speed	mm/s	9	9	10	10
Return speed	mm/s	120	120	100	100
Stroke X	mm	625	625	625	625
Speed X	mm/s	800	800	800	800
Stroke R	mm	200	200	200	200
Speed R	mm/s	200	200	200	200
Stroke Z -Z1 /Z2	mm	90 to 1,150	90 to 1,650	90 to 2,150	90 to 2,750
Speed Z -Z1 /Z2	mm/s	1,200	1,200	1,200	1,200
Stroke X1	mm	± 100	± 100	± 100	± 100
Speed X1	mm/s	100	100	100	100
Lenght, CE / No-CE	mm	3,300 / 2,100	3,800 / 2,600	4,300 / 3,100	4,820 / 4,100
Width, CE / No-CE	mm	2,050 / 1,635	2,050 / 1,635	2,050 / 1,635	2,070 / 1,635
Height	mm	2,930	2,930	2,955	2,980
Transportation height	mm	2,670	2,670	2,695	2,720
Weight	kg	5,000	6,000	7,700	11,100

Work Station with Wila tooling



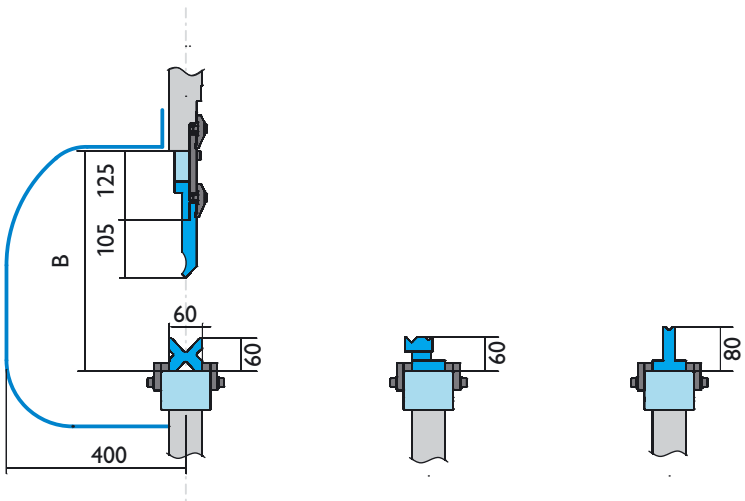


NOTE:
Penetration at bottom dead point

P-1630	P-1640	P-2230	P-2240
1,600	1,600	2,200	2,200
3,000	4,000	3,000	4,000
2,550	3,150	2,550	3,150
260	260	260	260
445	445	445	445
500	500	500	500
15	15	15	15
150	150	130	130
10	10	8	8
100	100	85	85
625	625	625	625
800	800	800	800
200	200	200	200
200	200	200	200
90 to 2,150	90 to 2,750	90 to 2,150	90 to 2,750
1,200	1,200	1,200	1,200
± 100	± 100	± 100	± 100
100	100	100	100
4,300 / 3,100	4,820 / 4,100	4,300 / 3,100	4,820 / 4,100
2,050 / 1,635	2,070 / 1,670	2,050 / 1,635	2,070 / 1,670
2,955	2,980	2,955	2,980
2,695	2,720	2,695	2,720
7,900	11,300	9,100	12,450

We reserve the right to change technical specifications without prior notice.

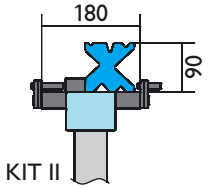
Work Station with European style tooling



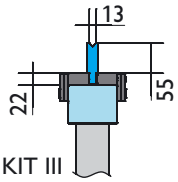
STANDARD VERSION FOR DIE BASE 60 mm

OPTION VERSIONS

FOR DIE 90 mm



FOR DIE TYPE "WILA"




Prima
Power
OPEN

PS brake for superior performance

The Prima Power PS brake stands for the outmost in flexibility and productivity. It has been designed for precision and high productivity in the most demanding manufacturing facilities.

The servo-hydraulic system has been designed to maximize ram speeds, which can reach up to 200 mm/sec both in approach and return. Working speed is programmable to ensure bending without loss of product quality or operator safety. The power boost function enables a maximum bending speed of 20mm/s, which can be used if allowed by local safety regulations.

Lazer Safe's "Block Laser" 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 that the back gauge will be ready when the part is presented for each operation.

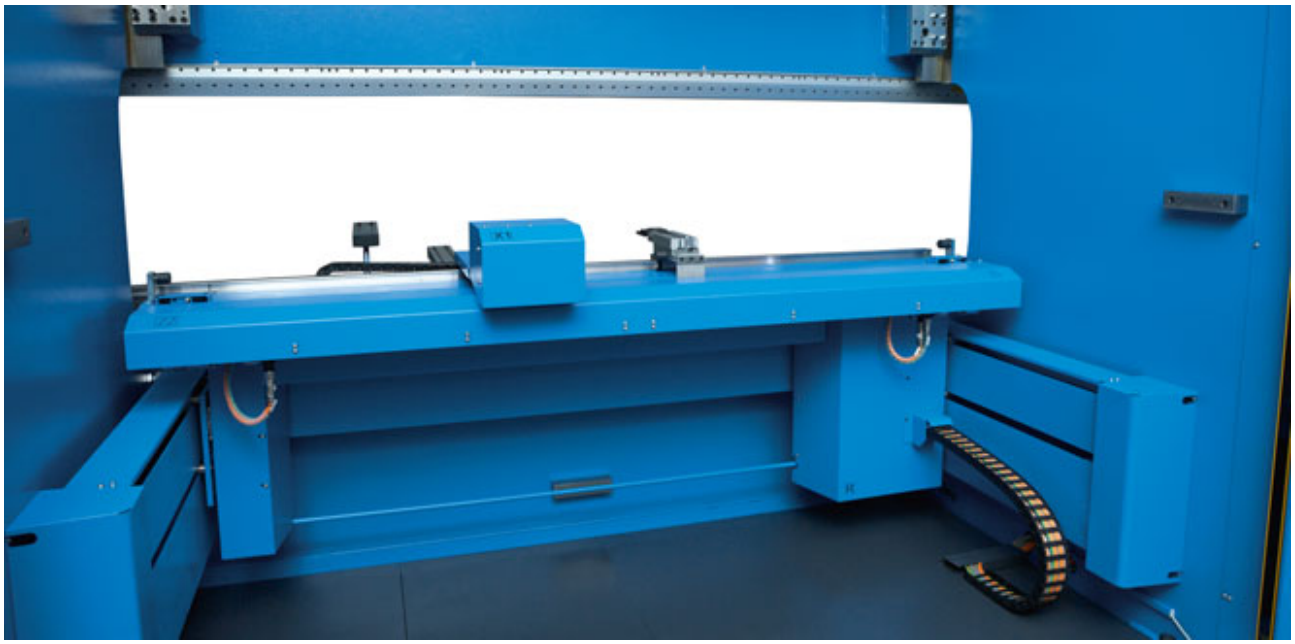
Each and every machine component of the Prima Power PS brake contributes to superior performance:

- Prima Electro Open Control
- Lazer Safe "Block Laser"
- Daylight 630 mm
- Stroke 400 mm
- Approaching and returning speeds up to 200 mm/s
- Wila,Wilson, European and American tooling systems
- Up to 6-axis high speed back gauges
- NC front supports
- Robot interface

Standards for superior performance

Prima Electro Open Control with 17" Touch Screen

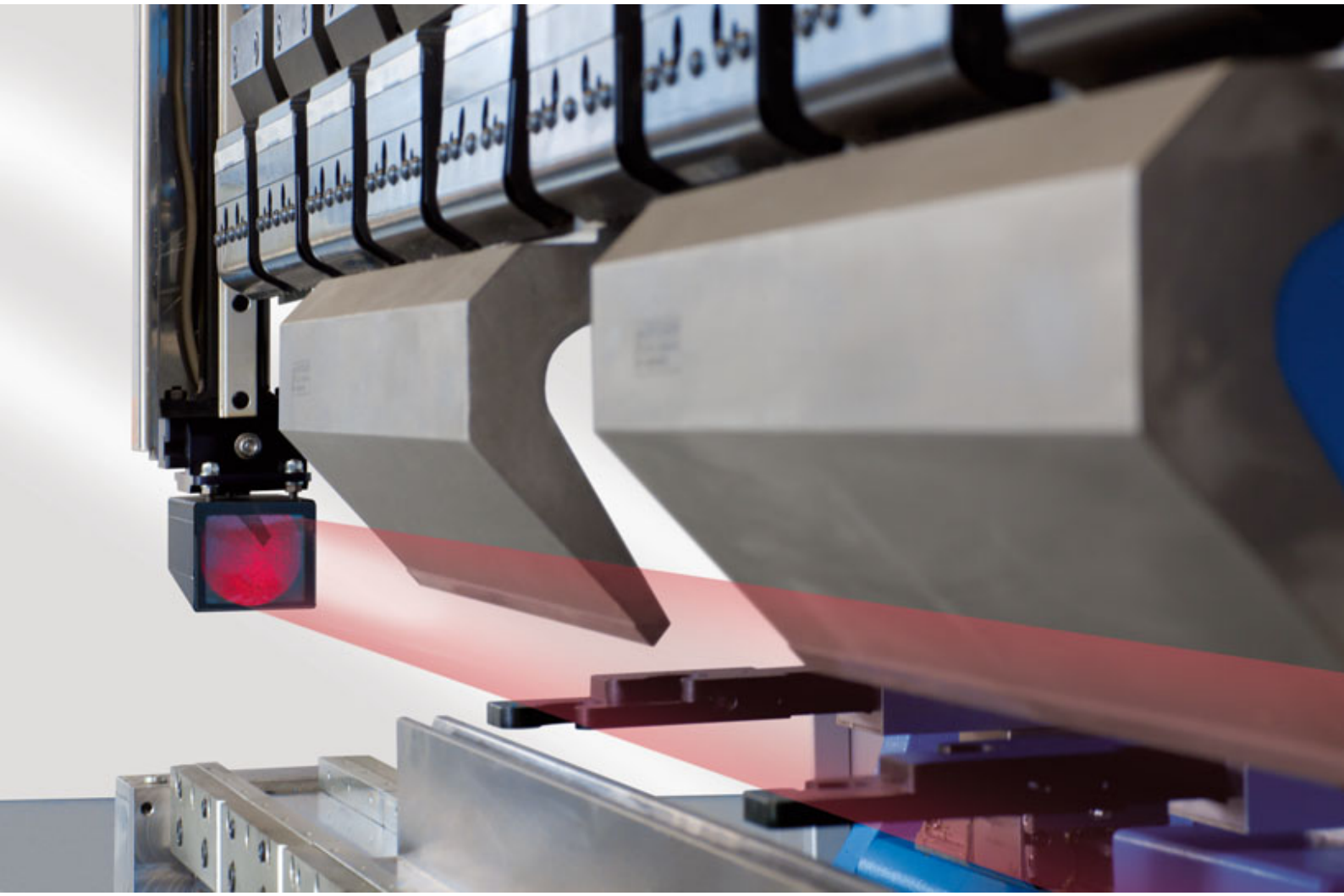
400 mm stroke and roll-guided ram



High speed gauging of parallel and non-parallel flanges with 5-axis back gauge.

Front supports with 100 kg payload each are mounted on linear rails and equipped with keyless height adjustment.

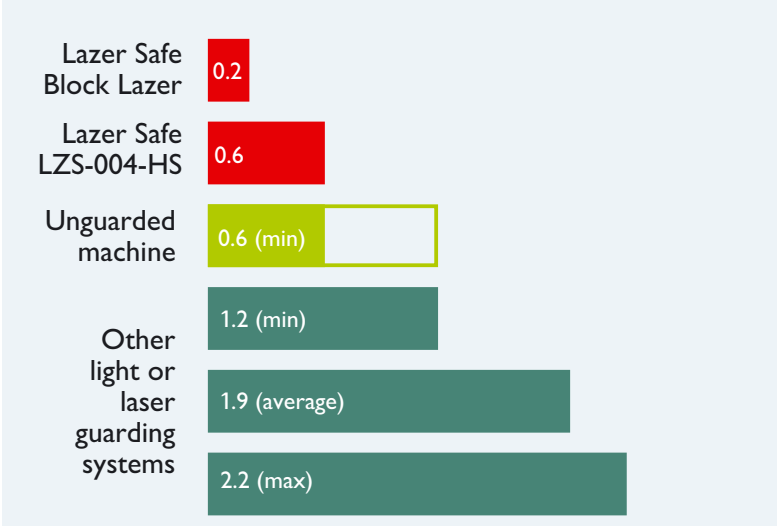
The state of the art in safety and productivity



The "Block Laser" 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 PS brake.

- Speed change 2 mm above material
- Allows the operator to work safely 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)
- Automatic alignment function in relation to tooling
- Fast removal with automatic repositioning for lateral tool changing

Block-lazer to maximize safety, productivity and tool crash protection

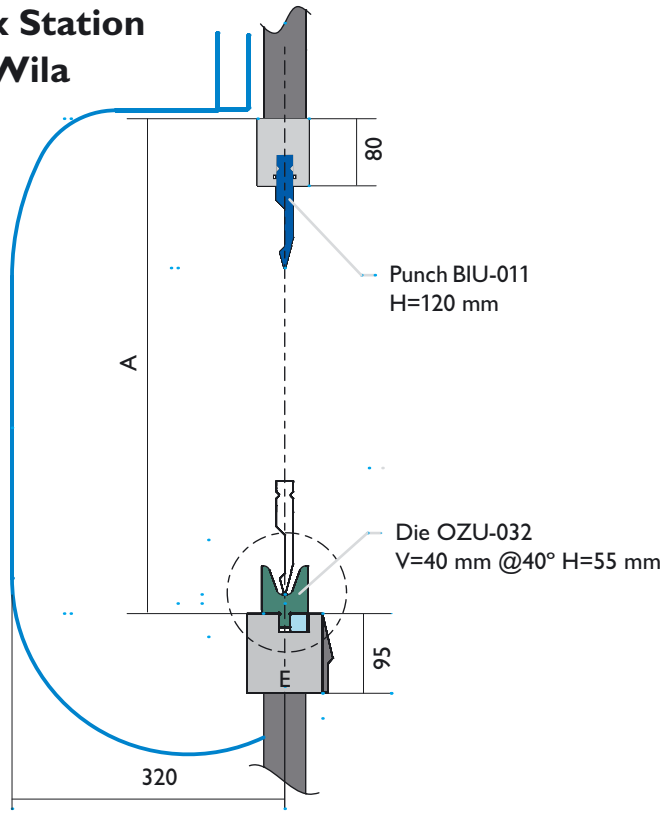


Comparison time in slow speed closing (seconds per cycle)

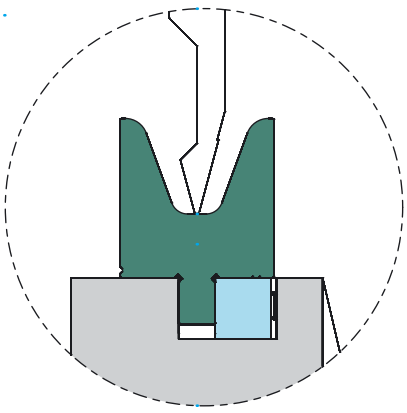
Technical data

PS Series PressBrake		P-0620 S	P-0925 S	P-1330 S	P-1630 S
Bending capacity	kN	600	900	1,350	1,600
Bending length	mm	2,000	2,500	3,000	3,000
Distance between housings	mm	1,550	2,050	2,550	2,550
Max. stroke	mm	400	400	400	400
Max. daylight [A]	mm	620	620	620	620
Max. daylight [B]	mm	630	630	630	630
Motor power	kW	7.5	11	22	22
Approaching speed	mm/s	220	220	200	180
Working speed, max. *	mm/s	10 / 20	10 / 20	10 / 20	10 / 20
Return speed	mm/s	240	240	200	200
Travel X axis	mm	625	625	625	625
Speed X axis	mm/s	800	800	800	800
Travel R axis	mm	200	200	200	200
Speed R axis	mm/s	200	200	200	200
Travel Z –Z1 /Z2	mm	80 – 1,170	80 – 1,670	80 – 2,170	80 – 2,170
SpeedZ –Z1 /Z2	mm/s	1,200	1,200	1,200	1,200
Travel axis X1	mm	± 100	± 100	± 100	± 100
Speed X1	mm/s	100	100	100	100
Overall length, CE / No-CE	mm	3,280 / 2,200	3,780 / 2,700	4,300 / 3,200	4,300 / 3,200
Overall depth, CE / No-CE	mm	2,030 / 1,600	2,030 / 1,610	2,030 / 1,620	2,030 / 1,620
Overall height	mm	3,200	3,360	3,380	3,380
Transport height	mm	2,800	2,950	2,980	2,980
Weight approx.	kg	6,000	7,000	9,000	9,200

Work Station with Wila



DETAIL E

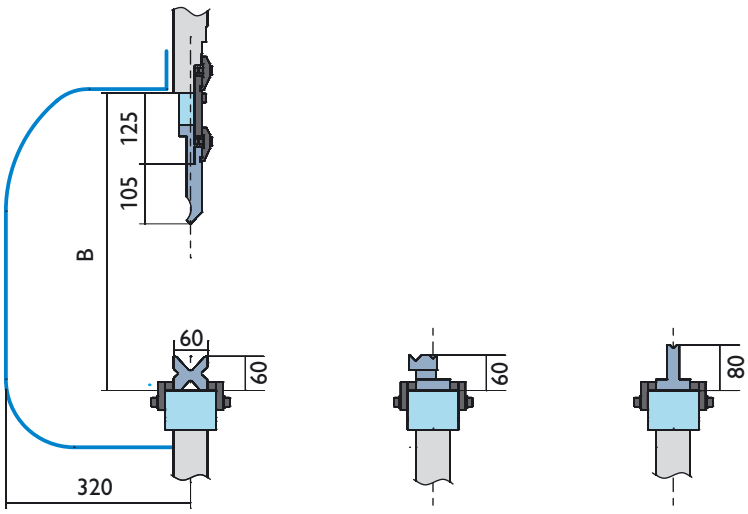


NOTE:
Penetration at bottom dead point.

P-1640 S	P-2230 S	P-2240 S	
1,600	2,200	2,200	
4,000	3,000	4,000	
3,150	2,550	3,150	
400	400	400	
620	620	620	
630	630	630	
22	22	22	
200	170	170	
10 / 20	8 / 18	8 / 18	According to local safety regulations
200	170	170	
625	625	625	
800	800	800	
200	200	200	
200	200	200	
80 – 2,770	80 – 2,170	80 – 2,770	
1,200	1,200	1,200	
± 100	± 100	± 100	
100	100	100	
4,820 / 4,200	4,300 / 3,200	4,820 / 4,200	
2,030 / 1,620	2,030 / 1,620	2,030 / 1,620	
3,380	3,380	3,380	
2,980	2,980	2,980	
13,200	11,900	14,100	

We reserve the right to change technical specifications without prior notice.

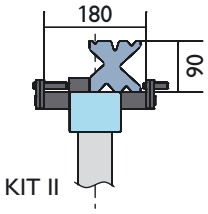
Work Station with European Style tooling



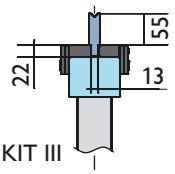
STANDARD VERSION FOR DIE BASE 60 mm

OPTION VERSIONS

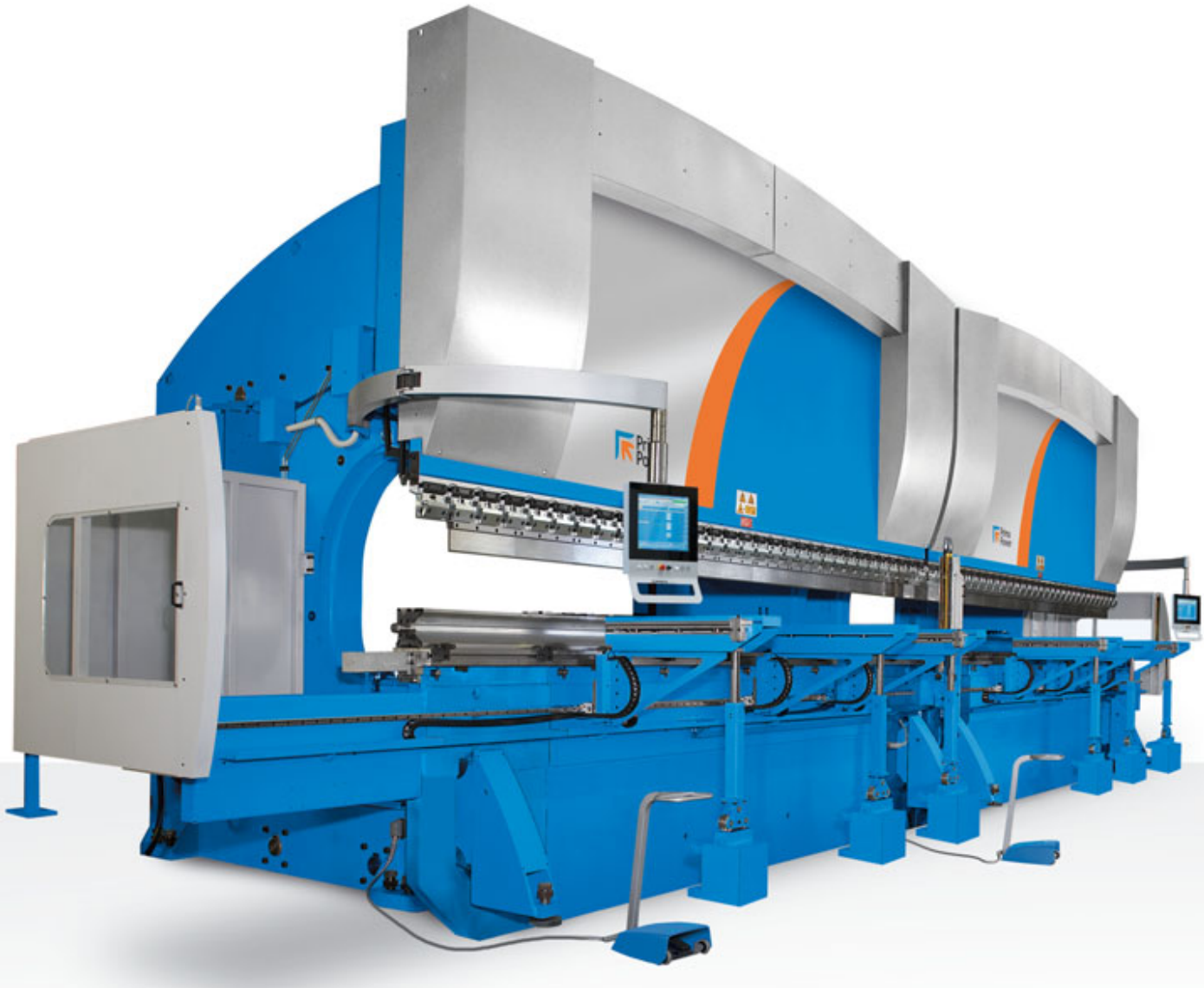
FOR DIE 90 mm



FOR DIE TYPE "WILA"



Prima Power PH for heavy-duty applications

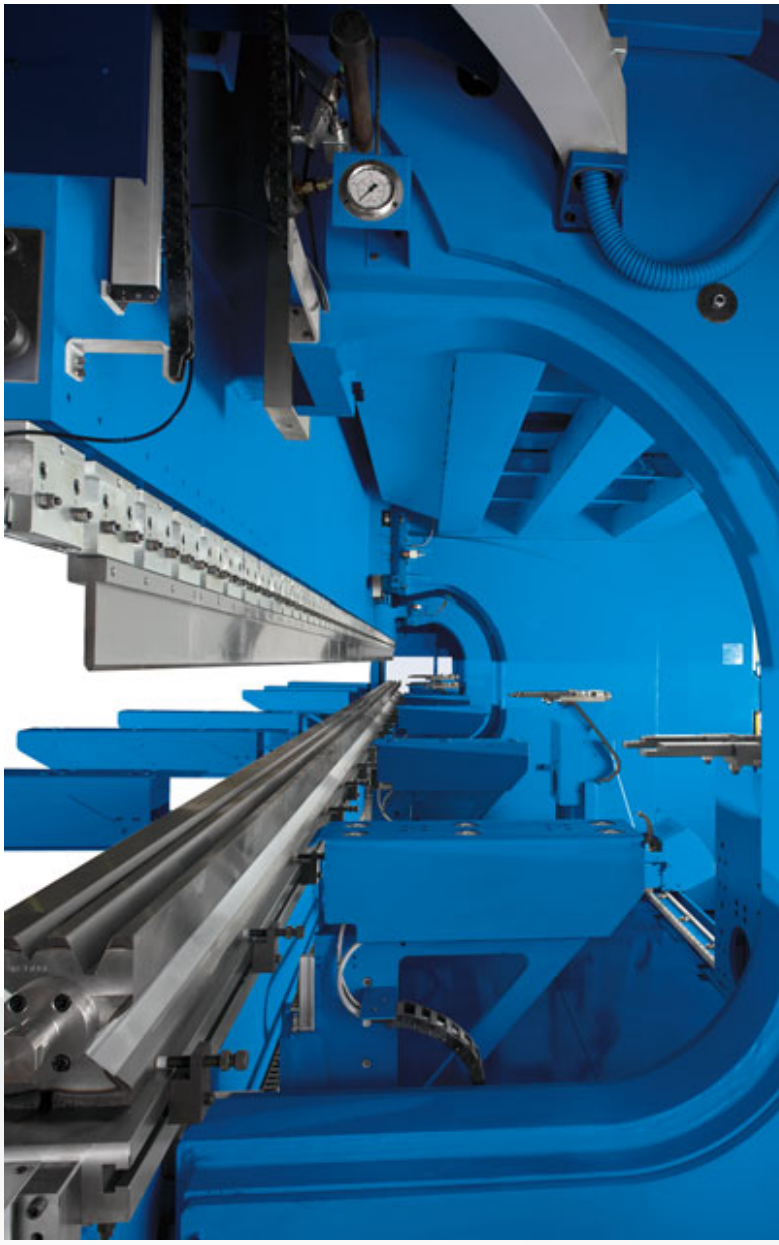


PH Series Press Brakes (P-### H)		3060	3070	4040	4060	4070	5040	5060	5070
Capacity	kN	3,000	3,000	4,000	4,000	4,000	5,000	5,000	5,000
Working length	mm	6,100	7,100	4,100	6,100	7,100	4,100	6,100	7,100
Distance between housings	mm	5,100	6,150	3,150	5,100	6,150	3,150	5,100	6,150
Max. stroke	mm	250	250	250	250	250	250	250	250
Max. open height	mm	530	530	530	530	530	530	530	530
Throat depth	mm	400	400	400	400	400	400	400	400
Motor power	kW	18	18	30	30	30	30	30	30
Approach speed	mm/s	100	100	100	100	100	100	100	100
Working speed	mm/s	8	8	9	9	9	8.5	8.5	8.5
Return speed	mm/s	100	100	90	90	90	75	75	75
Length	mm	6,550	7,650	4,400	6,550	7,650	4,400	6,550	7,650
Width	mm	2,000	2,000	2,300	2,300	2,300	2,350	2,350	2,350
Height	mm	3,500	3,950	3,450	3,700	4,050	3,650	4,280	4,600
Workstation height w/ tools	mm	1,100	860	1,000	860	860	1,080	860	860
Underfloor distance	mm	–	1,500	–	1,400	1,900	–	1,500	1,900
Approx. weight	kg	35,000	40,000	25,000	38,000	44,000	32,000	45,000	59,000

Whenever thick materials, long parts and customer specific options are concerned, PH-series is the solution. The wide product range of standard sizes covers bending applications up to 9 meter bending length and up to 1,600 ton bending force. Standard strokes and daylights are generously dimensioned. In addition, various front supports and back gauge solutions up to 9 axes are available for optimizing the bending process.

To meet requests exceeding the standard range the PH brakes can be built in tandem for longer parts as well as in reinforced execution for higher tonnages. The PH brakes are often customized according to specific bending applications starting from part feasibility studies – and this is where the decades of experience make the difference. Special tooling solutions, extra long strokes, oversize daylights, deeper gaps and special beds are some of the means in defining the optimal production solution for any particular application. In addition, automation solutions for part support, extraction and feeding are frequently applied to increase our customers' productivity.

Think big – PH will meet your production requirements.



6040	6060	6070	8060	8070	11060	11070	11080	13560	13570	13590	16075
6,000	6,000	6,000	8,000	8,000	11,000	11,000	11,000	13,500	13,500	13,500	16,000
4,100	6,100	7,100	6,100	7,100	6,100	7,100	8,100	6,100	7,100	9,100	7,500
3,150	5,100	6,150	5,100	6,150	5,100	6,150	6,800	5,100	6,150	8,100	6,200
300	300	300	300	300	300	300	300	300	300	300	640
600	600	600	600	600	700	700	700	700	700	700	1,000
400	400	400	400	400	400	400	400	400	400	400	640
37	37	37	45	45	55	55	55	2x30	2x30	2x30	2x55
100	100	100	100	100	100	100	100	100	100	100	70
7.5	7.5	7.5	7.5	7.5	7	7	7	6.5	6.5	6.5	8.5
75	75	75	75	75	80	80	80	90	90	90	90
4,400	6,650	7,650	6,550	7,650	6,550	7,650	8,650	6,550	7,650	9,650	8,700
2,600	2,600	2,600	2,700	2,700	2,900	2,900	2,900	3,200	3,200	3,200	3,250
4,200	4,450	4,700	4,600	4,900	4,700	5,050	5,430	5,300	5,600	5,900	5,700
1,100	860	860	860	860	860	860	860	860	860	860	850
–	1,500	2,000	1,750	2,100	2,000	2,250	2,400	2,600	2,850	3,025	2,850
42,000	50,000	64,000	70,000	79,000	92,000	112,000	125,000	100,000	115,000	140,000	150,000

We reserve the right to change technical specifications without prior notice.

Prima Power

The Bend
The Combi
The Laser
The Punch
The System
The Software

Servo-hydraulic bending technology by Prima Power

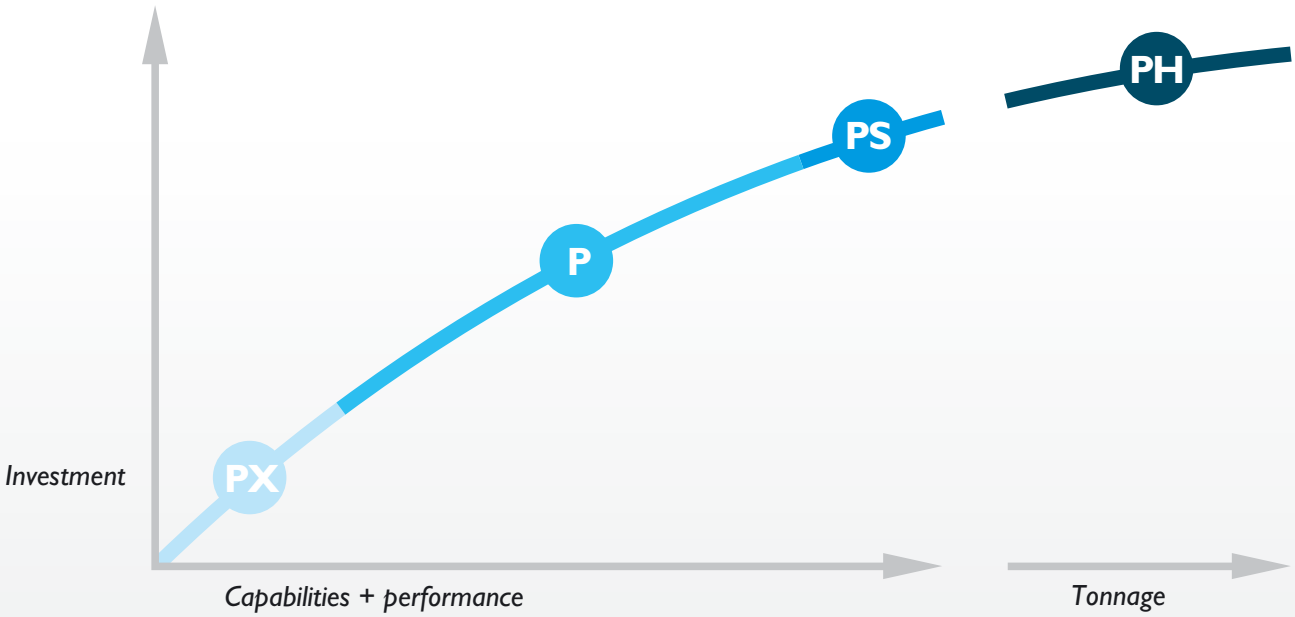
Servo-hydraulic Prima Power bending technology

Prima Power is recognized as a premier builder of fabricating equipment worldwide and its new P series servo-hydraulic press brakes makes no exception to this tradition.

To meet the most varied bending application and production requirements the P series comes in four different versions. The right choice between PX, P, PS and PH versions guarantees the optimum combination of performance and investment cost for any production task.

P series assembly lines

A common feature to all P series press brakes is a modular design platform, decades of experience, state-of-the-art machine construction and the latest in control technology, as well as 100 % design and manufacturing in Europe.



PX

THE BASIC SOLUTION

PX is the basic solution in the product range. High degree of standardization leads to limited number of machine types and very affordable prices.

P

WIDE RANGE OF MODELS

P version offers a wide range of models from 60 to 220 tons and a wide range of different options.

PS

SUPERIOR PERFORMANCE

PS guarantees superior performance to meet the most demanding targets in productivity and flexibility.

PH

FOR HEAVY DUTY BENDING

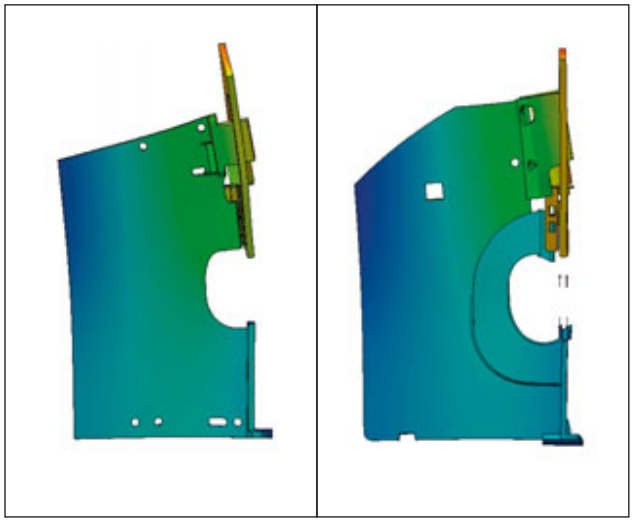
PH has been designed for heavy duty applications and to provide customer specific solutions.

Patented Hexa-C® frame with PX an P series brakes

The **patented structural concept Hexa-C®** ensures that the upper and lower beam remain aligned in any load condition contrary to what occurs in conventional C-structures. The upper beam guiding is fixed on reinforced "false C-frames" that guarantee perfect ram alignment independently of the side frame deformation.

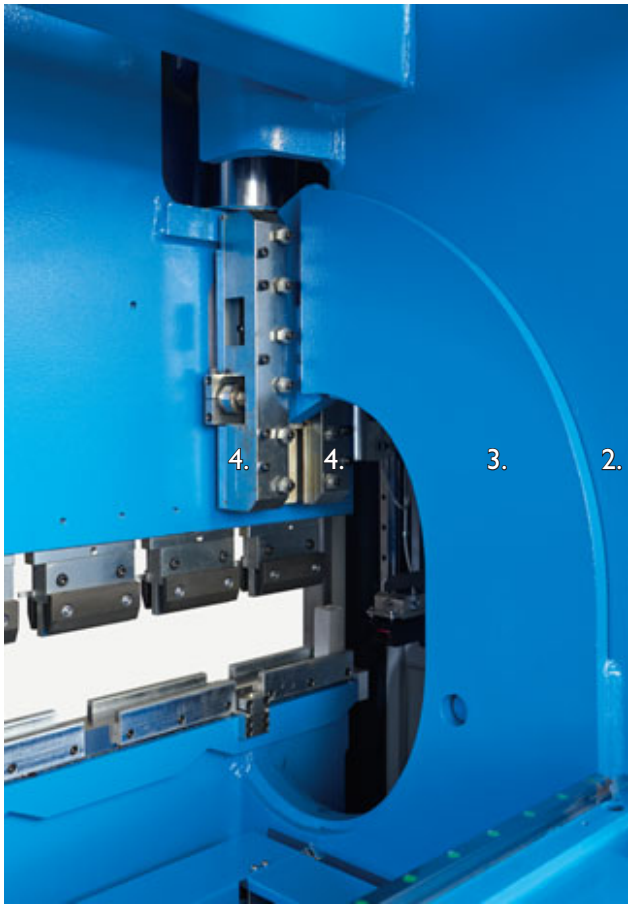
Hexa-C® advantages:

- Improved bending accuracy because movable beam remains perfectly aligned with fixed beam .
- Largest immunity to structure torsion effects in case of bending not in the center of the machine.
- Combine traditional function of strengthening the structure of "false C" with the function guiding support.
- The Hexa-C® philosophy present advantages in terms of sturdiness resulting therefore on a lighter frame and, consequently, lower environmental impact.



Conventional C-Frame *Patented Hexa-C® frame*

1. External C frame.
2. Side frame.
3. Internal C frame.



4. Ram guiding fixed on additional C-frames.

PX brake – a reliable basic solution

The PX series is built in three sizes based on a modular product structure. The design guideline "keep it simple" has lead to a high degree of standardization and well approved constructions. Reliability and affordable prices are direct derivatives of this approach.

Even though PX brakes represent the entry level in the Prima Power P-series no compromises have been made in terms of accuracy and reliability. Combining modern scientific calculations with decades of experience in machine tool building and construction is the foundation of the new PX series press brake.

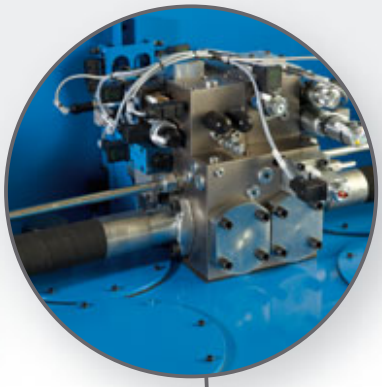
The solid PX architecture is based on a FEM optimized welded main frame based on the patented Hexa-C® structural concept. The working principle of PX brakes is based on electronic synchronized hydraulic drives that allow programmable bending speed as well as off-center and conic bending. Short set-up times for correct angles and ease of use are further advantages.

State of the art Lazer Safe safety guarding and a user friendly CNC control ensure easy and safe working with the PX-brake. All in all, the PX concept guarantees high accuracy combined with a high degree of reliability and safety.

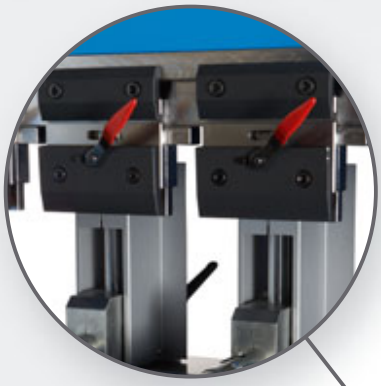
The standard configuration includes
- AD10 control with 7" colour screen
- CNC controlled Y1, Y2 and X axes with two back gauge fingers
- European style tool clamping with quick clamp intermediates
- 150 kg payload front supports
- Lazer safe
- CE / UL compatibility
- Hexa-C® frame

Optionally, the PX can be equipped with a 2D graphical, auto-sequencing programming interface, a CNC controlled crowning table, a CNC R-axis, table kits to adapt larger dies and a movable front support mounted on linear scales.

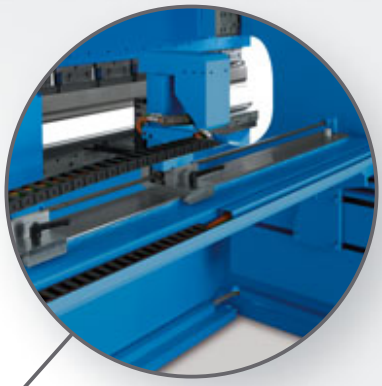
100 % European design and manufacturing invite for a closer look



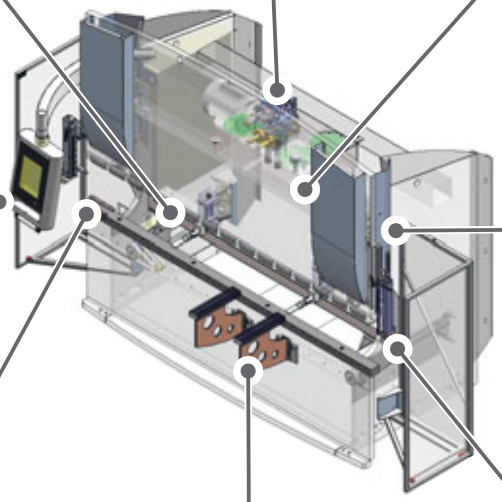
Synchronized servo-hydraulics



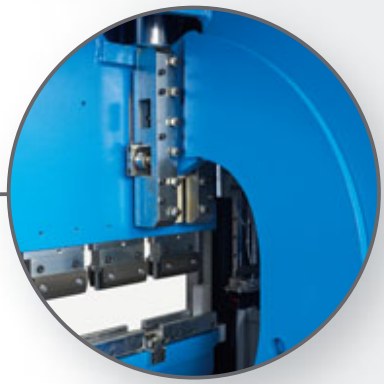
European style intermediates with quick clamp handles



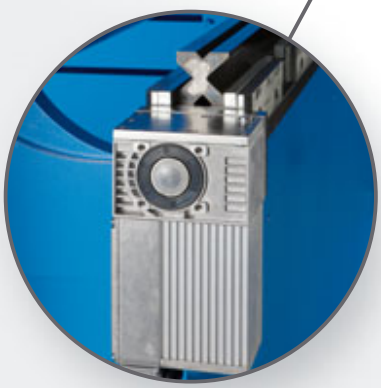
Back gauge up to four axis (X, R, Z1 and Z2)



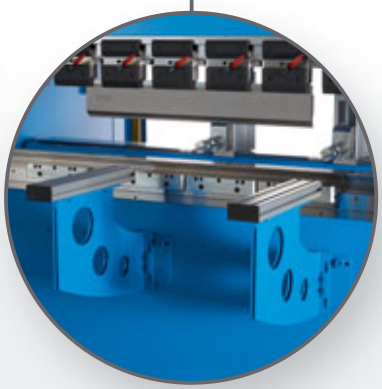
Graphical 2D programming with automatic bending sequence calculation (option)



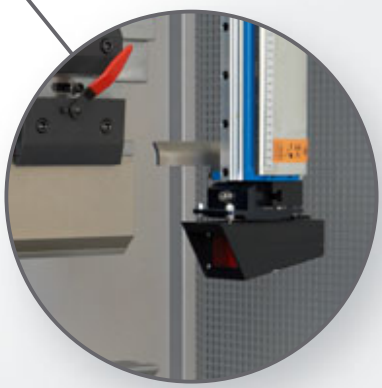
Hexa-C® frame construction



CNC Crowning (Option) compensates the bending line deflection and helps thus obtain constant angles.



Front supports with 150 kg payload each



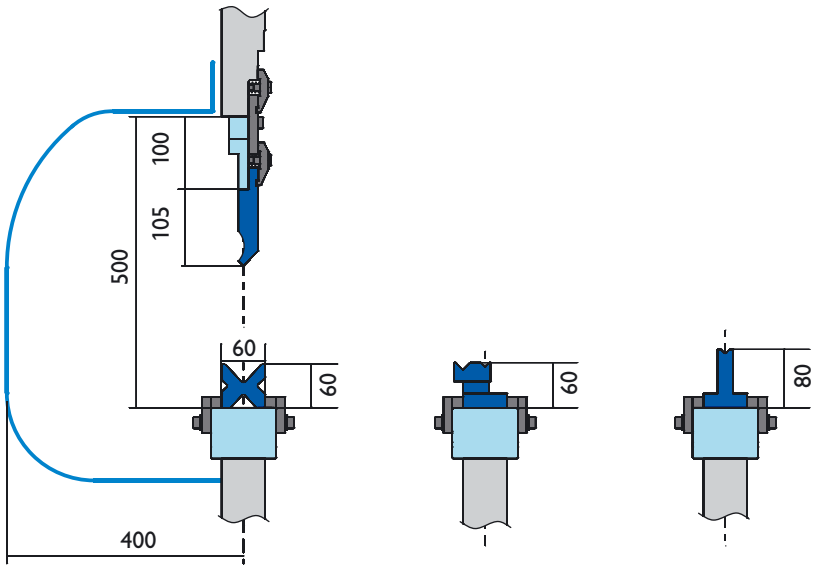
Lazer Safe safety equipment for safety and productivity

Technical data

PX Series Press Brakes		P-0620X	P-0925X	P-1330X	P-1340X	P-1630X	P-1640X	P-2240X
Capacity	kN	60	90	1,350	1,350	1,600	1,600	2,200
Working length	mm	2,000	2,500	3,000	4,000	3,000	4,000	4,000
Distance between housings	mm	1,550	2,050	2,550	3,150	2,550	3,150	3,150
Max. stroke	mm	260	260	260	260	260	260	260
Motor power	kW	5.5	5.5	7.5	7.5	9	9	15
Approach speed	mm/s	110	110	110	110	110	110	110
Working speed	mm/s	9	9	7	7	7	7	8
Return speed	mm/s	120	120	70	70	70	70	85
Stroke X	mm	625	625	625	625	625	625	625
Speed X	mm/s	350	350	350	350	350	350	350
Stroke R	mm	150	150	150	150	150	150	150
Speed R	mm/s	50	50	50	0	50	50	50
Stroke Z -Z1 /Z2	mm	80 to1,270	80 to 1,770	80 to 2,170	80 to 2,170	80 to 2,170	80 to 2,770	80 to 2,770
Speed Z -Z1 /Z2	mm/s	400	400	400	400	400	400	400
Lenght, CE / No-CE	mm	3,300 /2,100	3,800 / 2,600	4,300 / 3,100	4,820 / 4,100	4,300 / 3,100	4,820 / 4,100	4,820 / 4,100
Width, CE / No-CE	mm	2,050 / 1,635	2,050 / 1,635	2,050 / 1,635	2,050 / 1,635	2,050 / 1,635	2,050 / 1,635	2,070 / 1,670
Height	mm	2,930	2,930	2,955	2,980	2,955	2,980	2,980
Transportation height	mm	2,670	2,670	2,695	2,720	2,695	2,720	2,720
Weight	kg	4,800	5,800	7,500	10,900	7,700	11,100	12,250

We reserve the right to change technical specifications without prior notice.

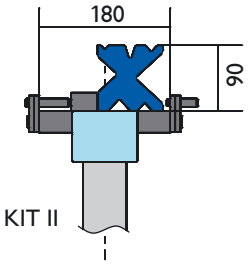
Work station



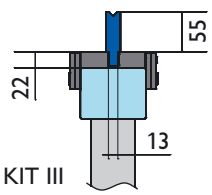
STANDARD VERSION
FOR DIE BASE 60 mm

OPTION VERSIONS

FOR DIE 90 mm



FOR DIE TYPE "WILA"



P brake for advanced versatility in machine configurations

The Prima Power P series press brake offers an advanced level of versatility. Its design platform is modular and standardized, which allows a wide offering of variations combined with affordable pricing. It has been designed to be a many sided solution for industries requiring flexibility and productivity.

The daylight opening, ram speed and tooling solutions have been studied in relation to each other in order to meet high productivity and flexibility requirements. Ram speeds exceeding 100 mm/s and the combination of Lazer Safe safety equipment and fast back gauge positioning speeds lead to increased productivity.

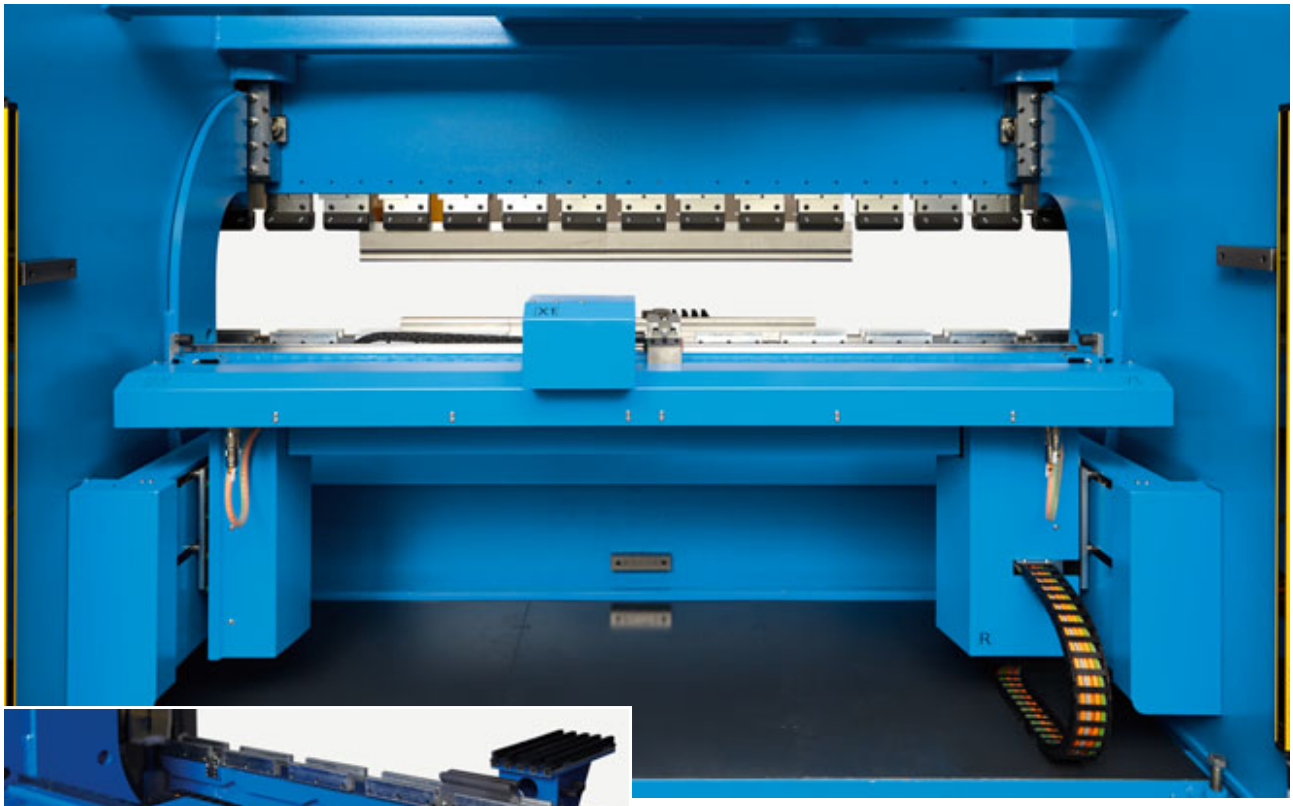
One of the highlights of the P brake is the Prima Electro Open control – also used in PS and PH brakes. The intuitive touch screen control is based on a 2D graphical interface with automatic bending sequencing. For programs made with the optional AutoPol off-line programming system the control features 3D simulation.

The standard configuration includes

- Prima Electro Open Control with 17" Touch Screen
- CNC controlled Y1, Y2 and a dual drive back gauge (X & R) with two back gauge fingers
- European style tool clamping with quick clamp intermediates. Included are also rear clamping plates for reverse tool mounting
- 100 kg payload front supports with brushes
- Lazer safe
- CE / UL compatible
- Hexa-C® frame

Optionally, the P brake can be equipped with Wila or Wilson tool clamping systems, hydraulic or pneumatic European style intermediates, a CNC controlled crowning table, CNC Z1 & Z2, R and relative movement X1 axes, table kits to adapt larger dies and a movable front support mounted on linear scales and CNC bending followers.

Precision through exact gauging



The 5-axis back gauge guarantees flexible and precise high speed gauging.

Ergonomic working environment

A dual articulation support arm with height adjustment enables flexible control panel positioning.

Support brush tables for easy part handling.

Ease of programming

Starting from the P model all Prima Power press brakes utilize the Prima Electro Open Control. For maximum processing speed this MS Windows 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.

The Prima Electro Open Control has a big hard disc, two USB ports and a network connection. It offers access to all control functions over teleservice.

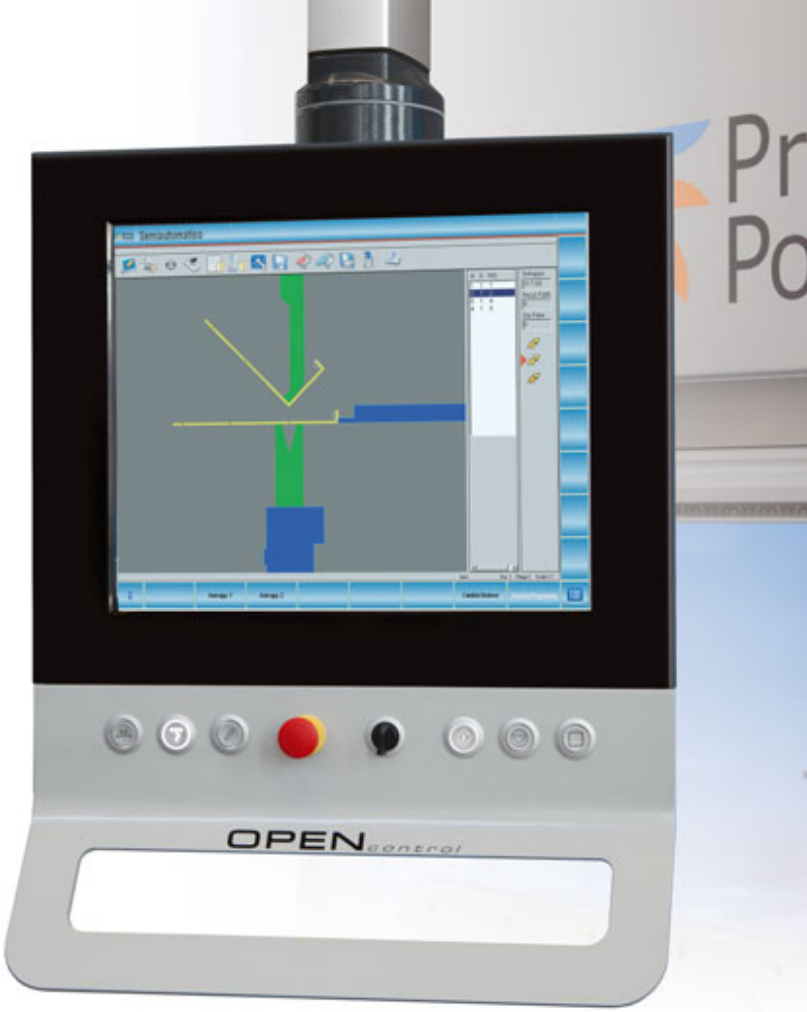
Most bending applications are easy to program by using the 2D graphical on-line programming with auto sequencing. As the demands may change in the course of time one may face the necessity of 3D off-line programming and 3D visualization of the parts in the machine control. The Prima Electro Open Control can at any time easily be SW-upgraded to meet this requirement.

AutoPOL off-line programming

AutoPOL is an easy-to-use and effective tool for off-line programming of all Prima Power P series brakes. 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 practically 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.

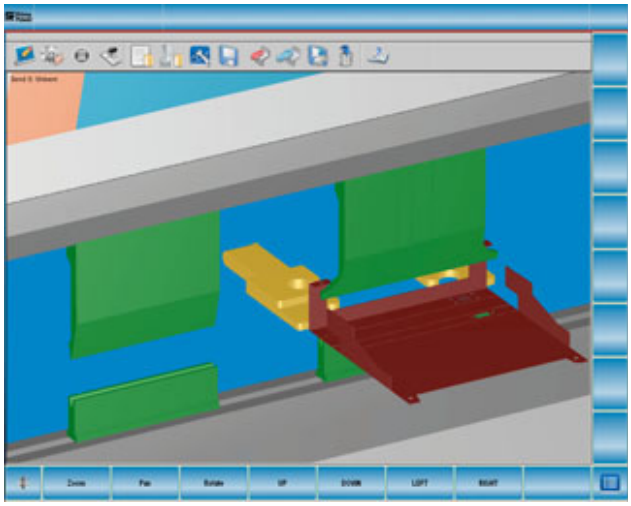
AutoPOL includes a **3D designer** for designing sheet metal parts, 2D and 3D file import functions, an **Unfolder** for automatic flat part calculation and a **Bend Simulator** for graphical programming and simulation.



2D programming with automatic bending sequencing

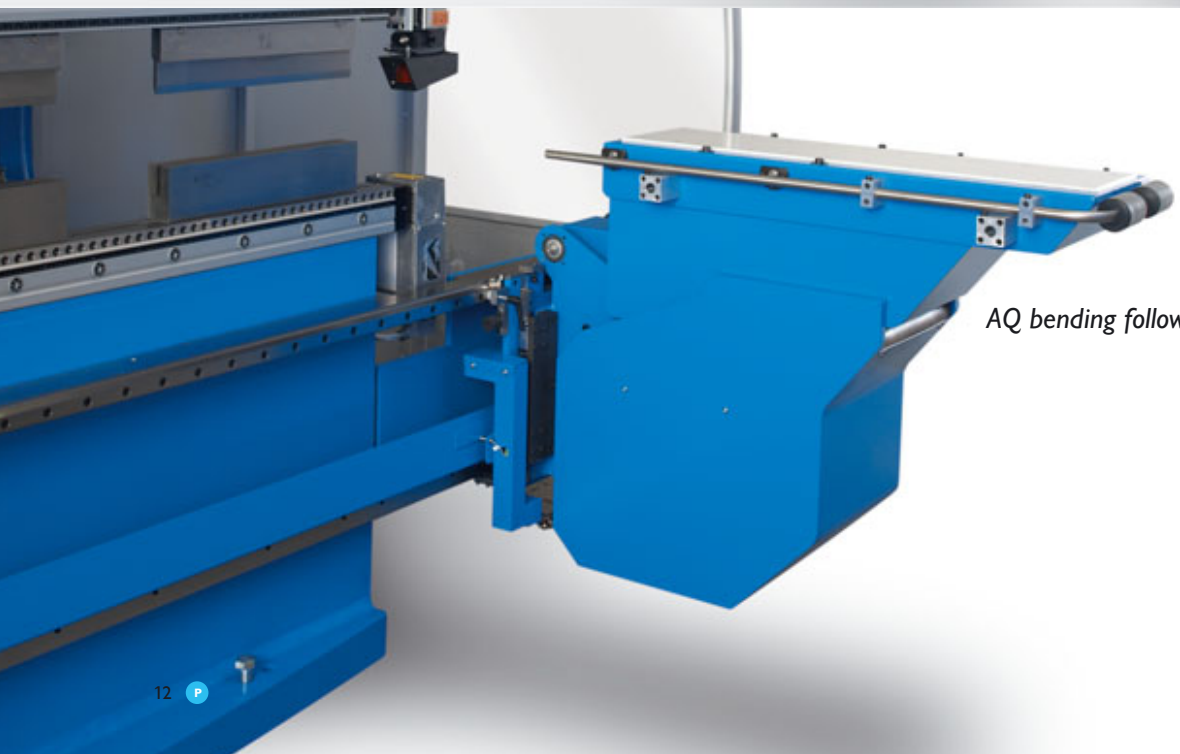
AutoPOL off-line programming

OPEN control 3D visualization of off-line programs

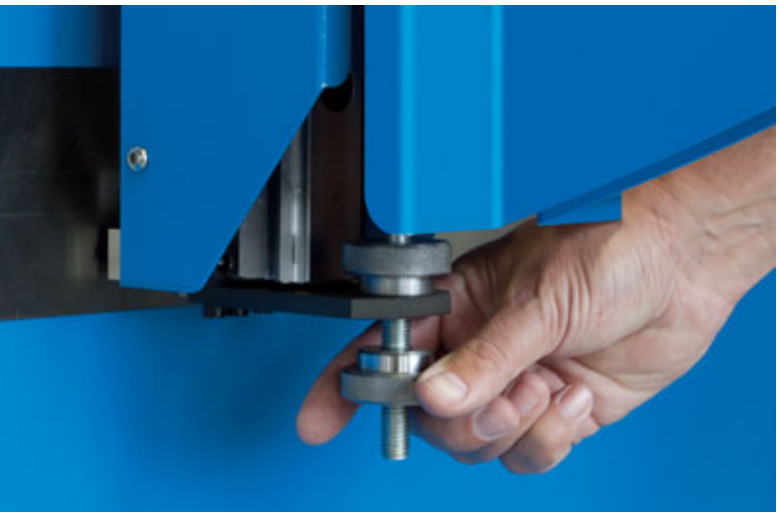


Advanced options

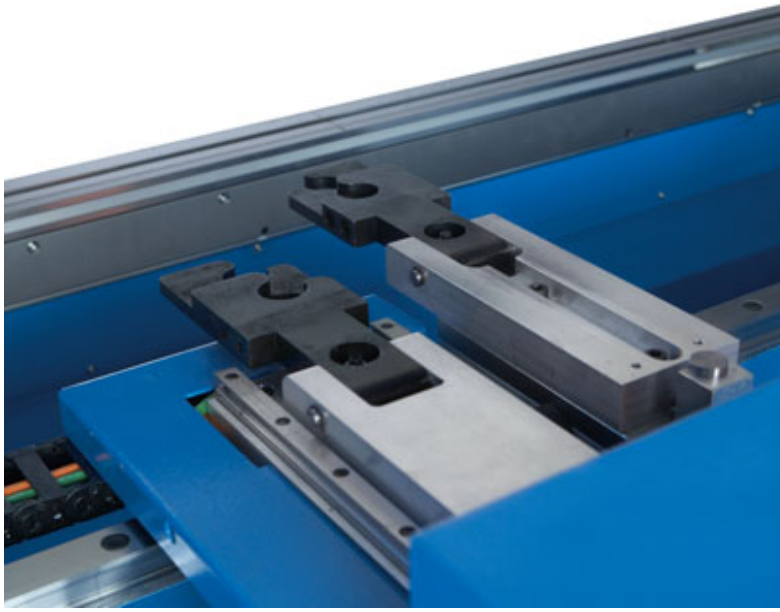
The ergonomics of bending big size panels can be significantly improved by the AQ bending follower. When the sheet is supported at the right time, angular deviation is reduced and material handling can be mastered by a single operator.



AQ bending follower in parking position



Movable front supports are equipped with keyless height adjustment; a spring loaded weight reduction system is included for ergonomic set-up work.



5-axis back gauge with an independent X1 movement of ± 100 mm

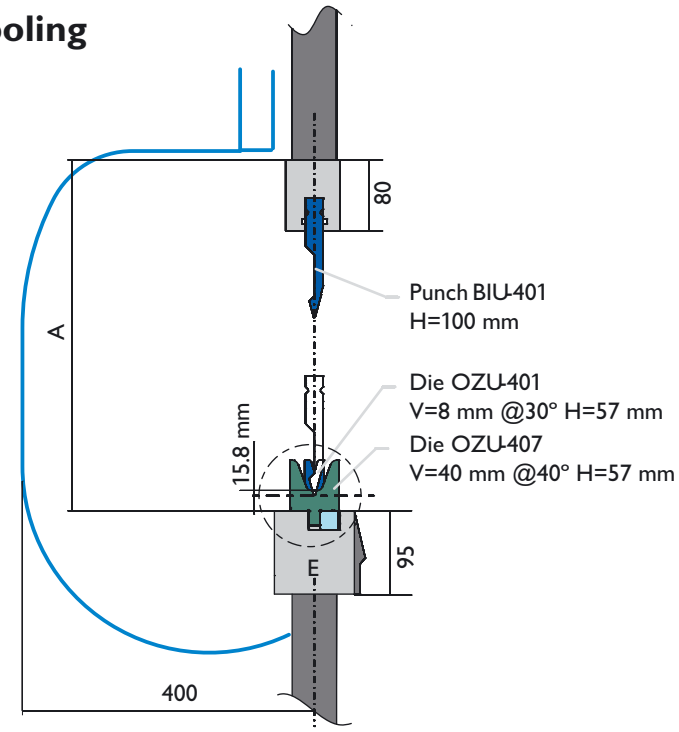
Pneumatically operated European style clamps allow vertical insertion and removal of tools. Even small segments can be removed separately leaving the adjoining tool segments safely fixed. The system aligns and seats the tools automatically.

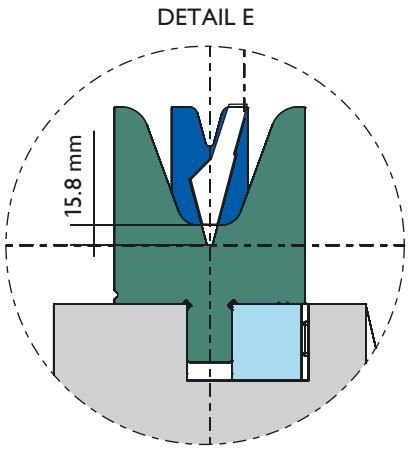
Wila tooling system meets the highest precision criteria and offers a continuous clamping bar. The symmetric clamping profile allows 180° tool swapping. Mechanical and hydraulic versions provide automatic tool alignment and seating. Tool segments equipped with safety clips can be inserted and removed vertically in any position along the clamping bar.

Technical data

P-Series Press Brakes		P-0620	P-0925	P-1330	P-1340
Capacity	kN	600	900	1,350	1,350
Working length	mm	2,000	2,500	3,000	4,000
Distance between housings	mm	1,550	2,050	2,550	3,150
Max. stroke	mm	260	260	260	260
(A) Max. open height	mm	445	445	445	445
(B) Max. open height	mm	500	500	500	500
Motor power	kW	5.5	7.5	15	15
Approach speed	mm/s	150	150	150	150
Working speed	mm/s	9	9	10	10
Return speed	mm/s	120	120	100	100
Stroke X	mm	625	625	625	625
Speed X	mm/s	800	800	800	800
Stroke R	mm	200	200	200	200
Speed R	mm/s	200	200	200	200
Stroke Z -Z1 /Z2	mm	90 to 1,150	90 to 1,650	90 to 2,150	90 to 2,750
Speed Z -Z1 /Z2	mm/s	1,200	1,200	1,200	1,200
Stroke X1	mm	± 100	± 100	± 100	± 100
Speed X1	mm/s	100	100	100	100
Lenght, CE / No-CE	mm	3,300 / 2,100	3,800 / 2,600	4,300 / 3,100	4,820 / 4,100
Width, CE / No-CE	mm	2,050 / 1,635	2,050 / 1,635	2,050 / 1,635	2,070 / 1,635
Height	mm	2,930	2,930	2,955	2,980
Transportation height	mm	2,670	2,670	2,695	2,720
Weight	kg	5,000	6,000	7,700	11,100

Work Station with Wila tooling



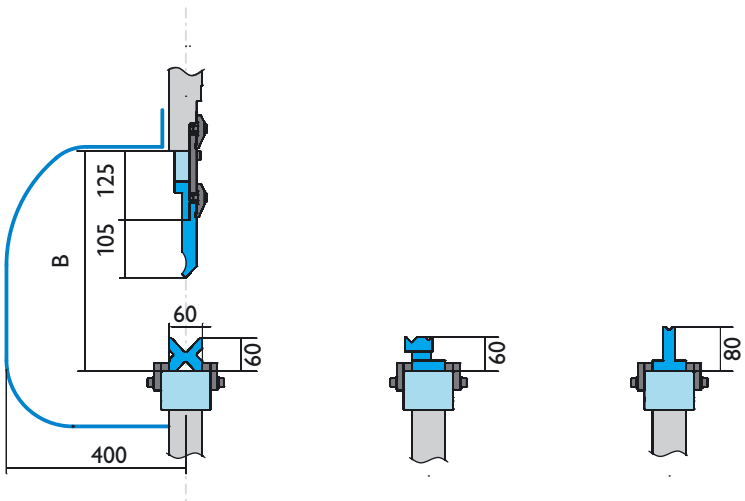


NOTE:
Penetration at bottom dead point

P-1630	P-1640	P-2230	P-2240
1,600	1,600	2,200	2,200
3,000	4,000	3,000	4,000
2,550	3,150	2,550	3,150
260	260	260	260
445	445	445	445
500	500	500	500
15	15	15	15
150	150	130	130
10	10	8	8
100	100	85	85
625	625	625	625
800	800	800	800
200	200	200	200
200	200	200	200
90 to 2,150	90 to 2,750	90 to 2,150	90 to 2,750
1,200	1,200	1,200	1,200
± 100	± 100	± 100	± 100
100	100	100	100
4,300 / 3,100	4,820 / 4,100	4,300 / 3,100	4,820 / 4,100
2,050 / 1,635	2,070 / 1,670	2,050 / 1,635	2,070 / 1,670
2,955	2,980	2,955	2,980
2,695	2,720	2,695	2,720
7,900	11,300	9,100	12,450

We reserve the right to change technical specifications without prior notice.

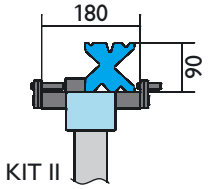
Work Station with European style tooling



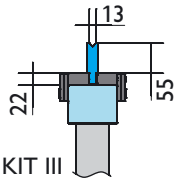
STANDARD VERSION FOR DIE BASE 60 mm

OPTION VERSIONS

FOR DIE 90 mm



FOR DIE TYPE "WILA"




Prima
Power
OPEN

PS brake for superior performance

The Prima Power PS brake stands for the outmost in flexibility and productivity. It has been designed for precision and high productivity in the most demanding manufacturing facilities.

The servo-hydraulic system has been designed to maximize ram speeds, which can reach up to 200 mm/sec both in approach and return. Working speed is programmable to ensure bending without loss of product quality or operator safety. The power boost function enables a maximum bending speed of 20mm/s, which can be used if allowed by local safety regulations.

Lazer Safe's "Block Laser" 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 that the back gauge will be ready when the part is presented for each operation.

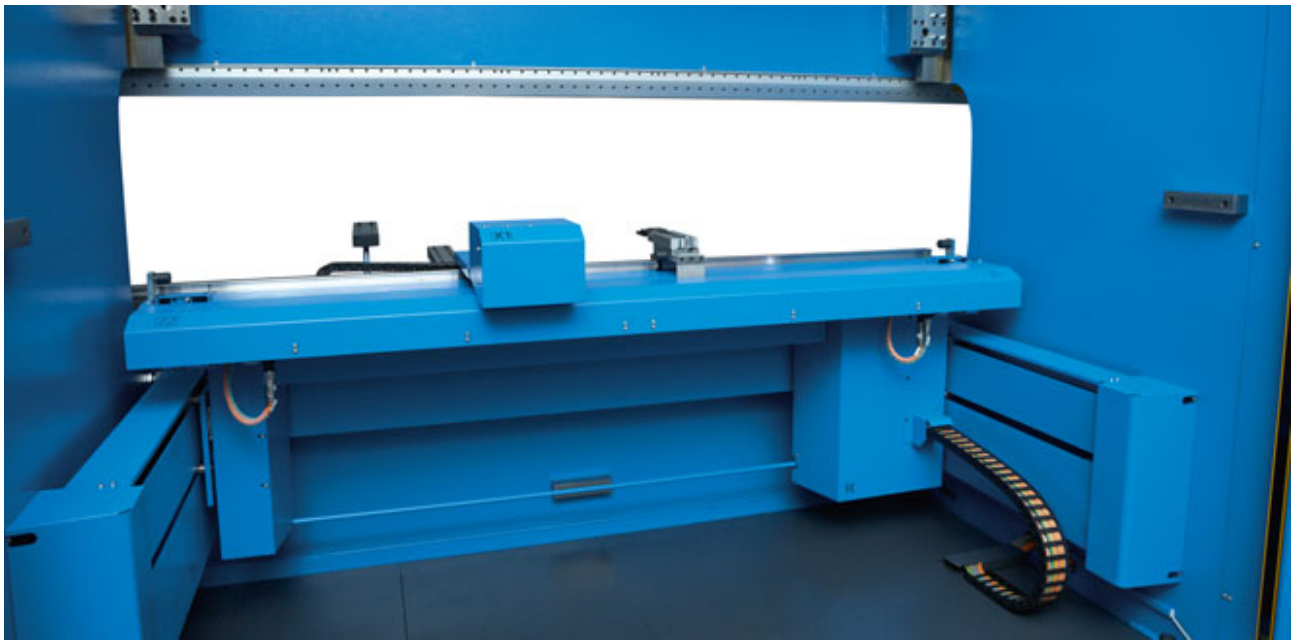
Each and every machine component of the Prima Power PS brake contributes to superior performance:

- Prima Electro Open Control
- Lazer Safe "Block Laser"
- Daylight 630 mm
- Stroke 400 mm
- Approaching and returning speeds up to 200 mm/s
- Wila,Wilson, European and American tooling systems
- Up to 6-axis high speed back gauges
- NC front supports
- Robot interface

Standards for superior performance

Prima Electro Open Control with 17" Touch Screen

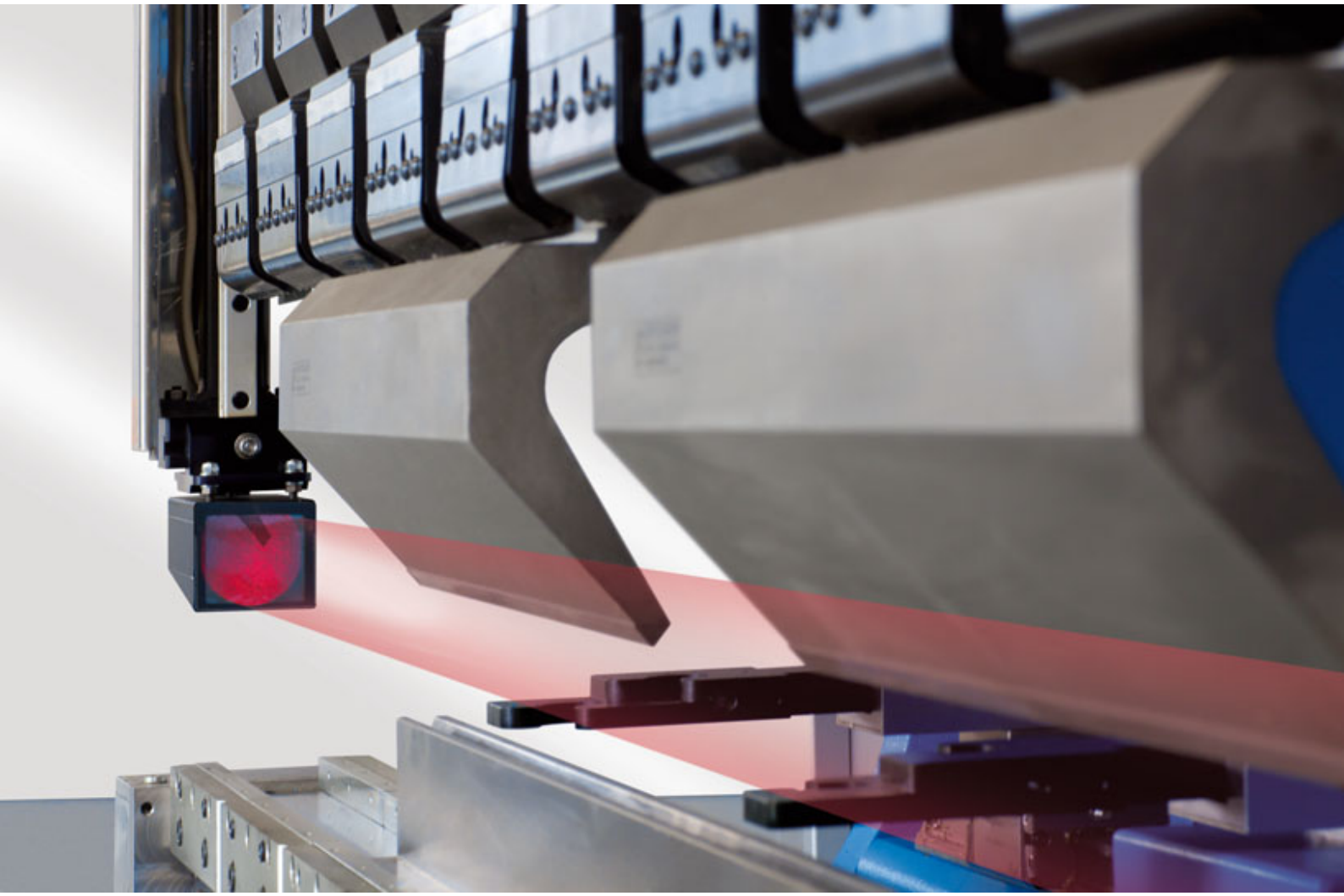
400 mm stroke and roll-guided ram



High speed gauging of parallel and non-parallel flanges with 5-axis back gauge.

Front supports with 100 kg payload each are mounted on linear rails and equipped with keyless height adjustment.

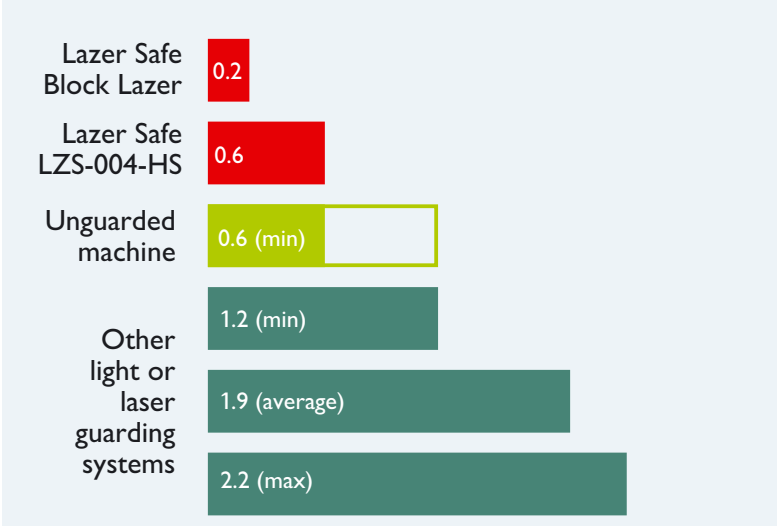
The state of the art in safety and productivity



The "Block Laser" 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 PS brake.

- Speed change 2 mm above material
- Allows the operator to work safely 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)
- Automatic alignment function in relation to tooling
- Fast removal with automatic repositioning for lateral tool changing

Block-lazer to maximize safety, productivity and tool crash protection

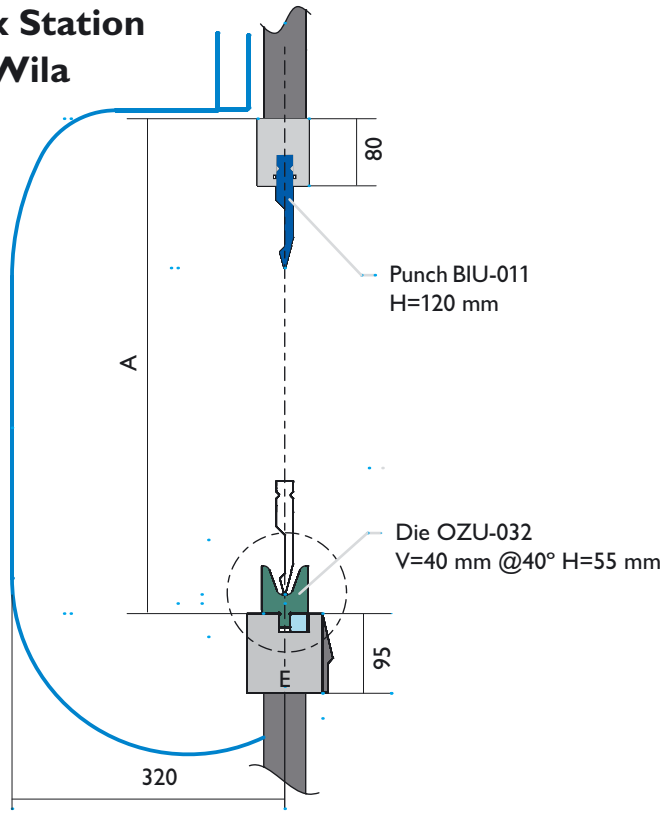


Comparison time in slow speed closing (seconds per cycle)

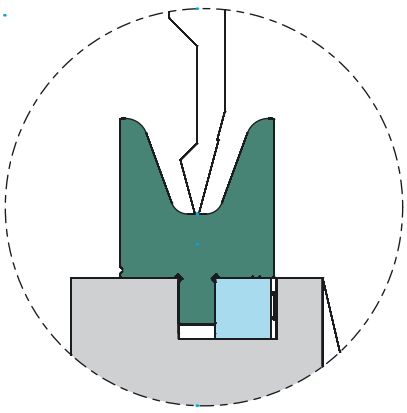
Technical data

PS Series PressBrake		P-0620 S	P-0925 S	P-1330 S	P-1630 S
Bending capacity	kN	600	900	1,350	1,600
Bending length	mm	2,000	2,500	3,000	3,000
Distance between housings	mm	1,550	2,050	2,550	2,550
Max. stroke	mm	400	400	400	400
Max. daylight [A]	mm	620	620	620	620
Max. daylight [B]	mm	630	630	630	630
Motor power	kW	7.5	11	22	22
Approaching speed	mm/s	220	220	200	180
Working speed, max. *	mm/s	10 / 20	10 / 20	10 / 20	10 / 20
Return speed	mm/s	240	240	200	200
Travel X axis	mm	625	625	625	625
Speed X axis	mm/s	800	800	800	800
Travel R axis	mm	200	200	200	200
Speed R axis	mm/s	200	200	200	200
Travel Z –Z1 /Z2	mm	80 – 1,170	80 – 1,670	80 – 2,170	80 – 2,170
SpeedZ –Z1 /Z2	mm/s	1,200	1,200	1,200	1,200
Travel axis X1	mm	± 100	± 100	± 100	± 100
Speed X1	mm/s	100	100	100	100
Overall length, CE / No-CE	mm	3,280 / 2,200	3,780 / 2,700	4,300 / 3,200	4,300 / 3,200
Overall depth, CE / No-CE	mm	2,030 / 1,600	2,030 / 1,610	2,030 / 1,620	2,030 / 1,620
Overall height	mm	3,200	3,360	3,380	3,380
Transport height	mm	2,800	2,950	2,980	2,980
Weight approx.	kg	6,000	7,000	9,000	9,200

Work Station with Wila



DETAIL E

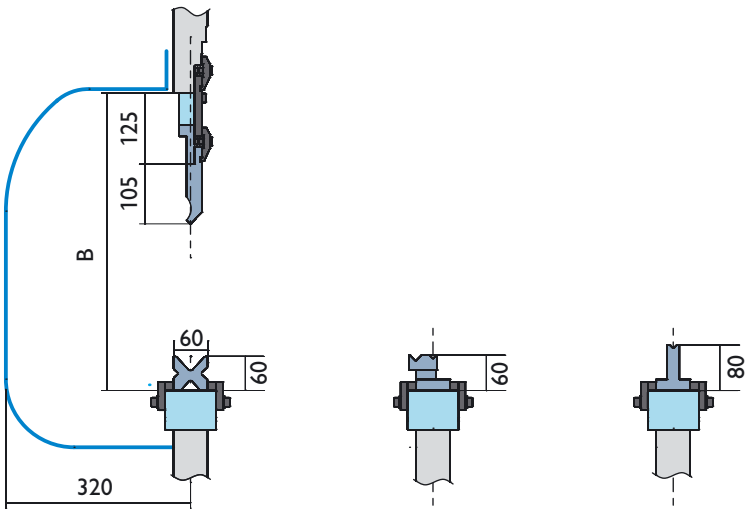


NOTE:
Penetration at bottom dead point.

P-1640 S	P-2230 S	P-2240 S	
1,600	2,200	2,200	
4,000	3,000	4,000	
3,150	2,550	3,150	
400	400	400	
620	620	620	
630	630	630	
22	22	22	
200	170	170	
10 / 20	8 / 18	8 / 18	According to local safety regulations
200	170	170	
625	625	625	
800	800	800	
200	200	200	
200	200	200	
80 – 2,770	80 – 2,170	80 – 2,770	
1,200	1,200	1,200	
± 100	± 100	± 100	
100	100	100	
4,820 / 4,200	4,300 / 3,200	4,820 / 4,200	
2,030 / 1,620	2,030 / 1,620	2,030 / 1,620	
3,380	3,380	3,380	
2,980	2,980	2,980	
13,200	11,900	14,100	

We reserve the right to change technical specifications without prior notice.

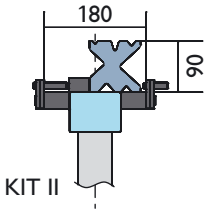
Work Station with European Style tooling



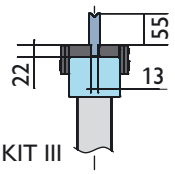
STANDARD VERSION FOR DIE BASE 60 mm

OPTION VERSIONS

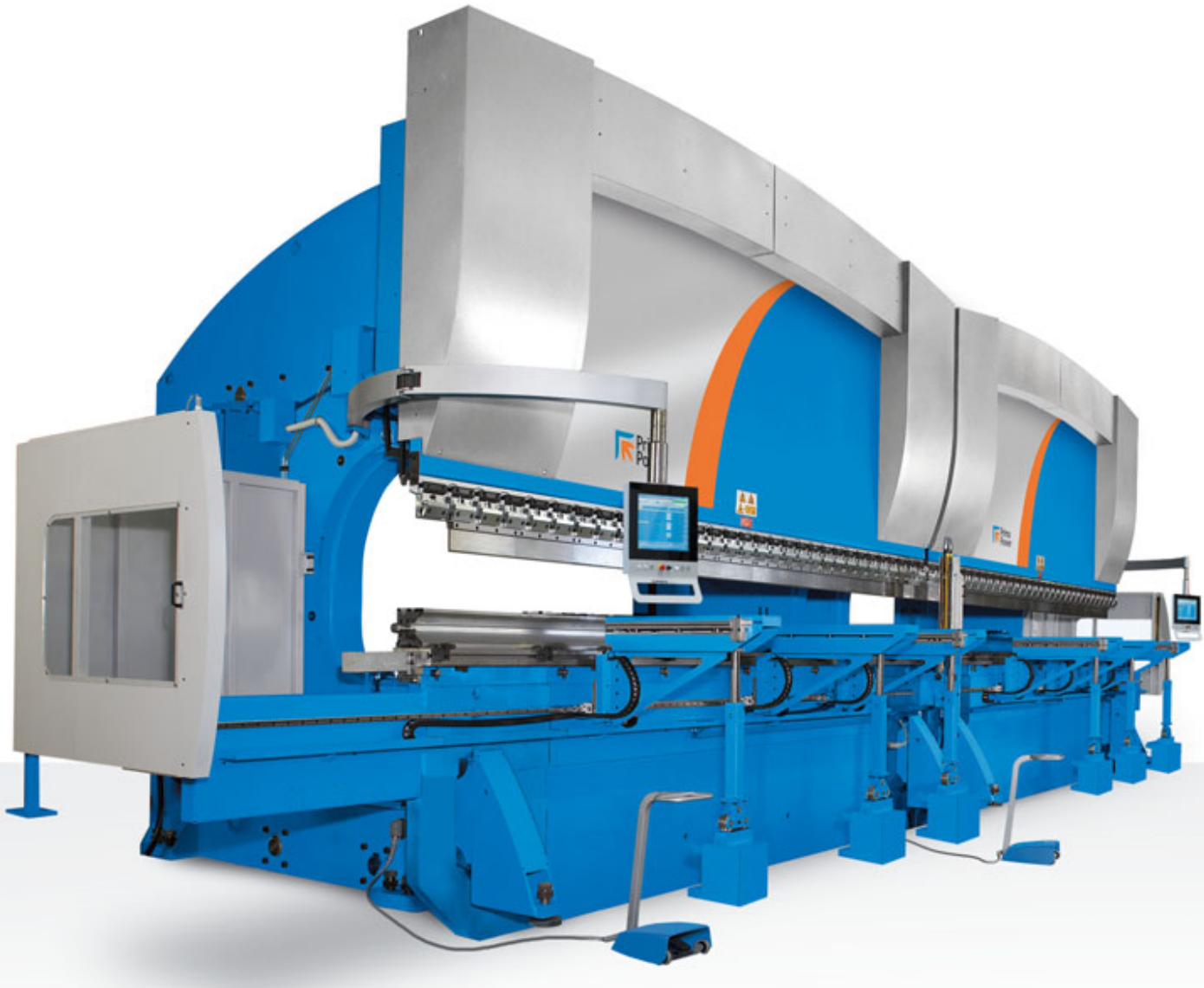
FOR DIE 90 mm



FOR DIE TYPE "WILA"



Prima Power PH for heavy-duty applications

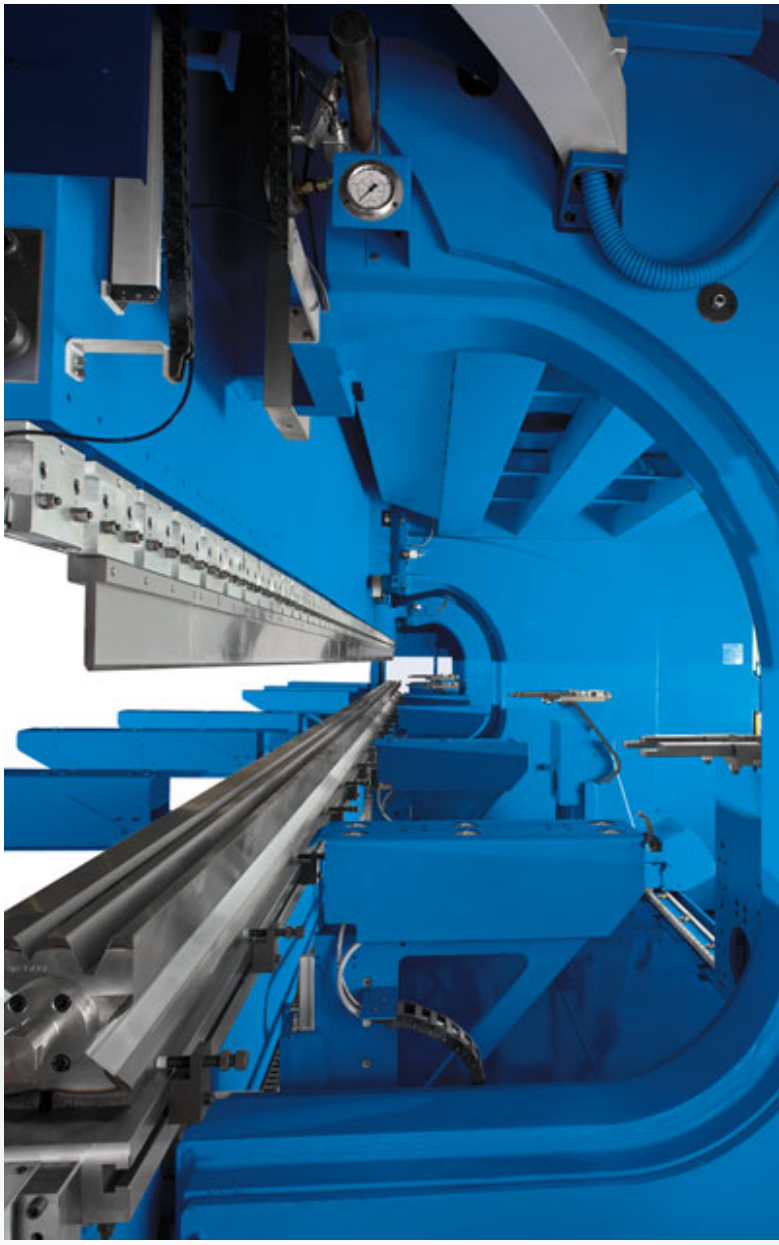


PH Series Press Brakes (P-### H)		3060	3070	4040	4060	4070	5040	5060	5070
Capacity	kN	3,000	3,000	4,000	4,000	4,000	5,000	5,000	5,000
Working length	mm	6,100	7,100	4,100	6,100	7,100	4,100	6,100	7,100
Distance between housings	mm	5,100	6,150	3,150	5,100	6,150	3,150	5,100	6,150
Max. stroke	mm	250	250	250	250	250	250	250	250
Max. open height	mm	530	530	530	530	530	530	530	530
Throat depth	mm	400	400	400	400	400	400	400	400
Motor power	kW	18	18	30	30	30	30	30	30
Approach speed	mm/s	100	100	100	100	100	100	100	100
Working speed	mm/s	8	8	9	9	9	8.5	8.5	8.5
Return speed	mm/s	100	100	90	90	90	75	75	75
Length	mm	6,550	7,650	4,400	6,550	7,650	4,400	6,550	7,650
Width	mm	2,000	2,000	2,300	2,300	2,300	2,350	2,350	2,350
Height	mm	3,500	3,950	3,450	3,700	4,050	3,650	4,280	4,600
Workstation height w/ tools	mm	1,100	860	1,000	860	860	1,080	860	860
Underfloor distance	mm	–	1,500	–	1,400	1,900	–	1,500	1,900
Approx. weight	kg	35,000	40,000	25,000	38,000	44,000	32,000	45,000	59,000

Whenever thick materials, long parts and customer specific options are concerned, PH-series is the solution. The wide product range of standard sizes covers bending applications up to 9 meter bending length and up to 1,600 ton bending force. Standard strokes and daylights are generously dimensioned. In addition, various front supports and back gauge solutions up to 9 axes are available for optimizing the bending process.

To meet requests exceeding the standard range the PH brakes can be built in tandem for longer parts as well as in reinforced execution for higher tonnages. The PH brakes are often customized according to specific bending applications starting from part feasibility studies – and this is where the decades of experience make the difference. Special tooling solutions, extra long strokes, oversize daylights, deeper gaps and special beds are some of the means in defining the optimal production solution for any particular application. In addition, automation solutions for part support, extraction and feeding are frequently applied to increase our customers' productivity.

Think big – PH will meet your production requirements.



6040	6060	6070	8060	8070	11060	11070	11080	13560	13570	13590	16075
6,000	6,000	6,000	8,000	8,000	11,000	11,000	11,000	13,500	13,500	13,500	16,000
4,100	6,100	7,100	6,100	7,100	6,100	7,100	8,100	6,100	7,100	9,100	7,500
3,150	5,100	6,150	5,100	6,150	5,100	6,150	6,800	5,100	6,150	8,100	6,200
300	300	300	300	300	300	300	300	300	300	300	640
600	600	600	600	600	700	700	700	700	700	700	1,000
400	400	400	400	400	400	400	400	400	400	400	640
37	37	37	45	45	55	55	55	2x30	2x30	2x30	2x55
100	100	100	100	100	100	100	100	100	100	100	70
7.5	7.5	7.5	7.5	7.5	7	7	7	6.5	6.5	6.5	8.5
75	75	75	75	75	80	80	80	90	90	90	90
4,400	6,650	7,650	6,550	7,650	6,550	7,650	8,650	6,550	7,650	9,650	8,700
2,600	2,600	2,600	2,700	2,700	2,900	2,900	2,900	3,200	3,200	3,200	3,250
4,200	4,450	4,700	4,600	4,900	4,700	5,050	5,430	5,300	5,600	5,900	5,700
1,100	860	860	860	860	860	860	860	860	860	860	850
–	1,500	2,000	1,750	2,100	2,000	2,250	2,400	2,600	2,850	3,025	2,850
42,000	50,000	64,000	70,000	79,000	92,000	112,000	125,000	100,000	115,000	140,000	150,000

We reserve the right to change technical specifications without prior notice.

Prima Power

The Bend
The Combi
The Laser
The Punch
The System
The Software

Servo-electric bending technology by Prima Power

Servo-electric eP-1030 press brake

Prima Power has been a true pioneer in applying servo electronics in sheet metal working. The first punching machine with the green e-technology was introduced as early as 1998. Today this technology is offered in a wide range of products e.g. stand-alone punching machines, laser combi machines, Shear Genius® machines integrating punching and right angle shearing as well as panel benders.

Prima Power has now applied a servo-electric drive system on the new eP-Series press brake. 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.

Model	Press tonnage (t)	Bending length (mm)
eP-0520	55	2040
eP-1030	105	3060
eP-1336	135	3655

green means

What does Green mean?

Green means a win-win for you and sustainable development.

Sustainability adds to manufacturing efficiency and productivity.

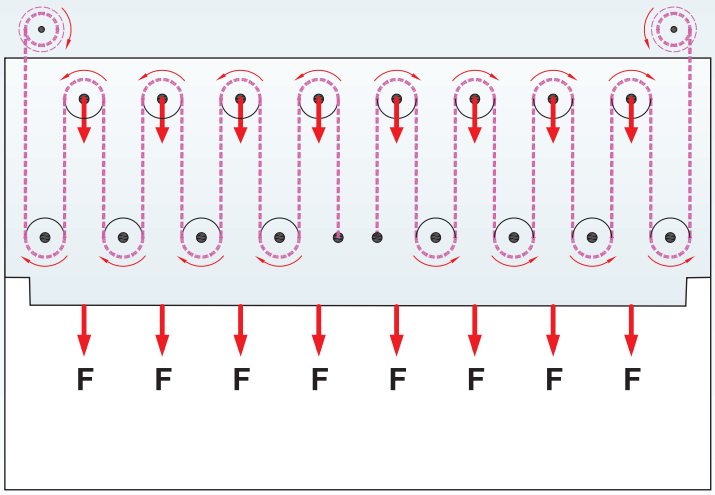
Your customers, your employees and the community you operate in demand it more and more.

Sustainability & social responsibility are characteristics of a modern company and add to competitiveness.

They make a difference between the best and the rest.

And you make better sheet metal components at lower cost.

Design concept



Pulley-belt force transmission

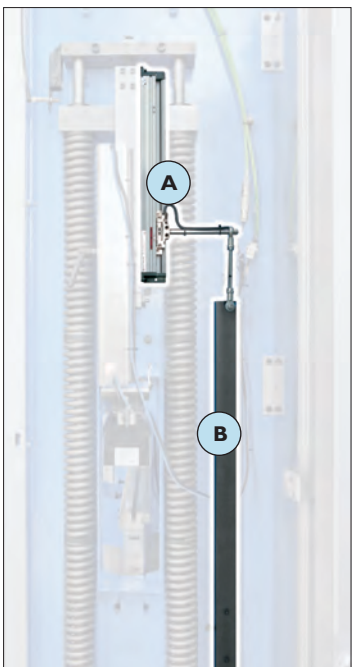
The pulley belt system is actuated by Prima Electro servo drives and distributes the bending force over the whole bending length. The system consists of fixed and moving rolls spread out over the total working length of the upper beam. The belt itself is a steel wire reinforced maintenance free belt. 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.

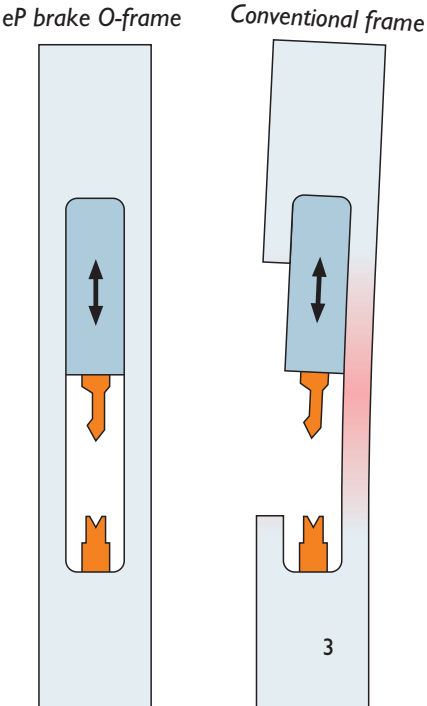
5-year warranty

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-Brake 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 (A) that are attached independent (B) 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.





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.

The Prima Electro Open Control has a big hard disc, two USB ports, a network connection and it offers access to all control functions over teleservice.

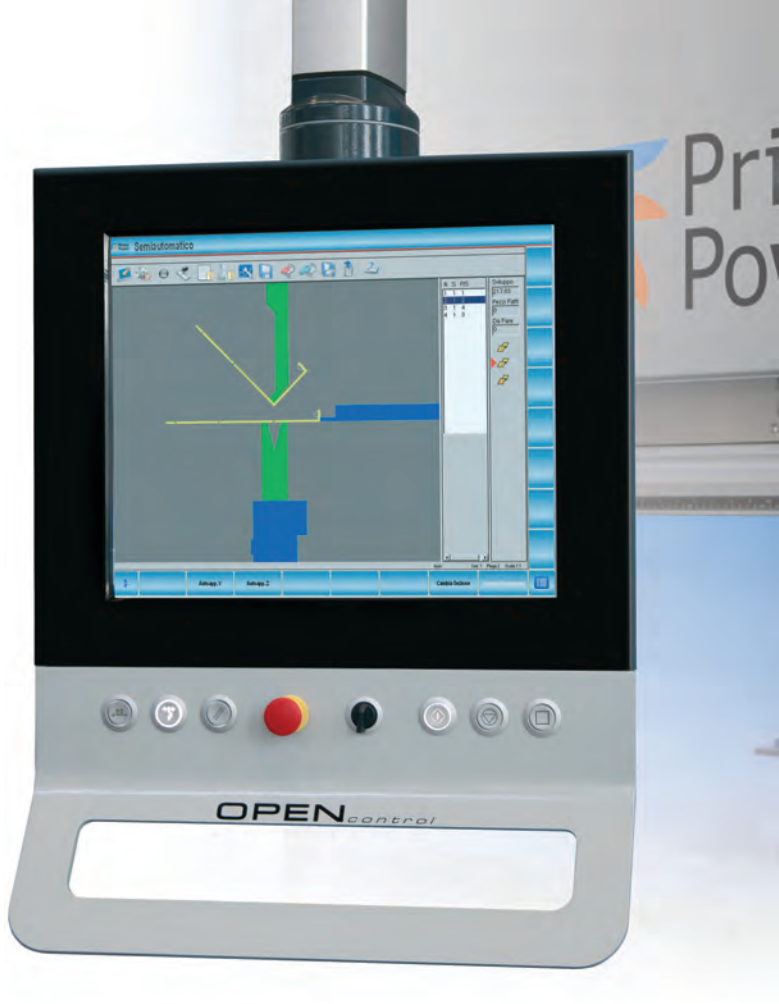
Most bending applications are easily programmed by using the 2D graphical on-line programming with auto sequencing. As the demands may change in the course of time one may face the necessity of 3D off-line programming and 3D visualization of the parts in the machine control. The Prima Electro Open Control can at any time easily be SW-upgraded to meet this requirement.

AutoPOL off-line programming

AutoPOL is an easy-to-use and effective tool for off-line programming of Prima Power eP-Brakes. 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 practically 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.

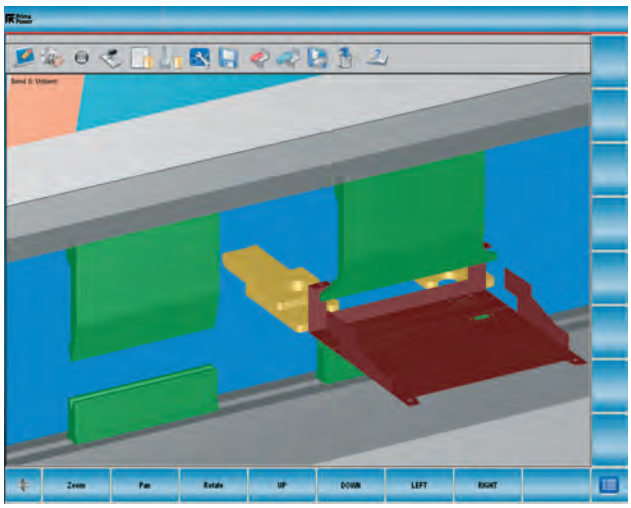
AutoPOL includes a **3D designer** for designing of sheet metal parts, 2D and 3D file import functions, an **Unfolder** for automatic flat part calculation and a **Bend Simulator** for graphical programming and simulation.



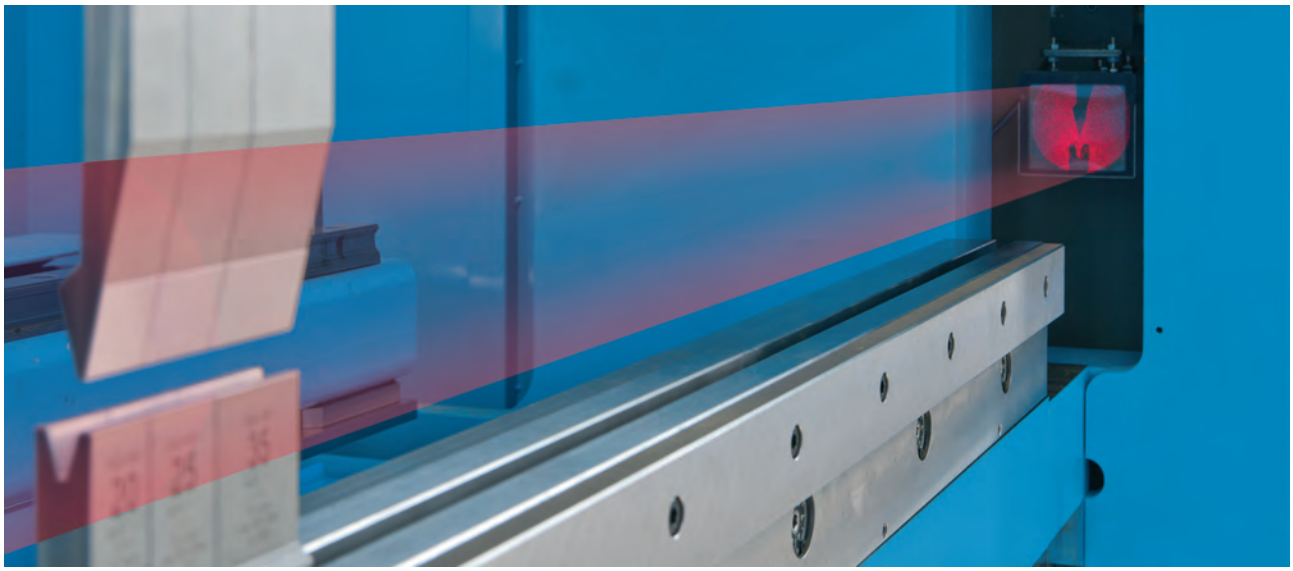
2D programming with automatic bending sequencing

Auto-Pol off-line programming

OPEN control 3D visualization of off-line programs



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

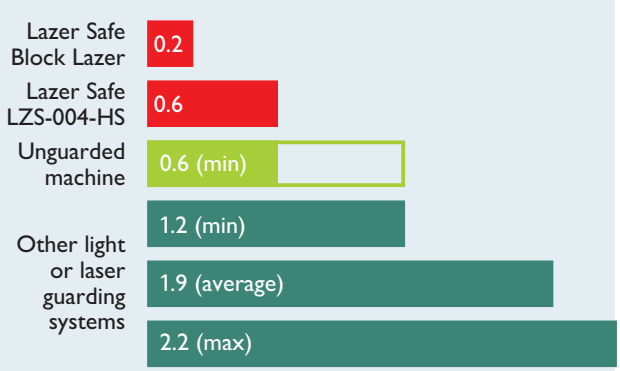


The "Block Laser" safety equipment by Lazer Safe represents the most advanced safety solution for press brakes in terms of productivity and protection level. Its unique features increase the competitiveness of the eP-Brake:

- 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)
- Automatic alignment function in relation to tooling
- Fast removal with automatic repositioning for lateral tool changing

Angle measurement option

Block-lazer to maximize safety, productivity and tool crash protection

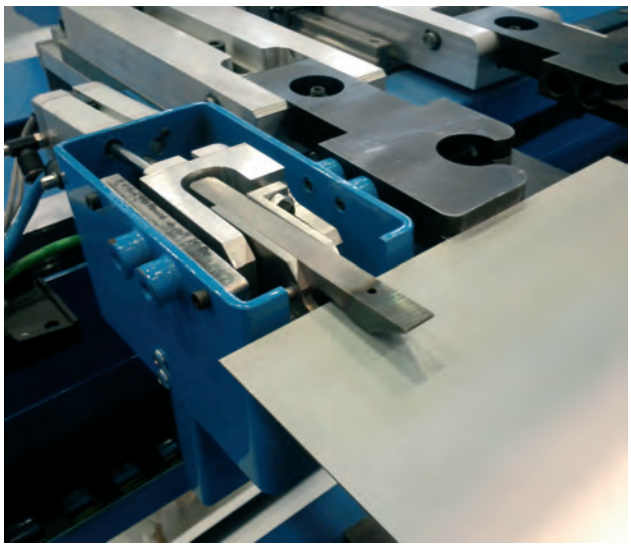


Comparison time in slow speed closing (seconds per cycle)

Angle control

Outstanding precision is one of the most characteristic features of the Prima Power eP-series brakes. However, variations in sheet metal material can negatively affect work piece quality.

Thickness variation of sheet metal is the most common reason for angular deviation. For example, when bending on a 8-mm V-die a 0.04 mm change in thickness causes an angle deviation of one degree!



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 and back of the eP-Brake

Apart of its outstanding rigidity and stress behaviour the O-frame construction offers big advantages in terms of flexibility. The uprights being mounted outside 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.

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
- 6-axis tower back gauge for the most complicated parts

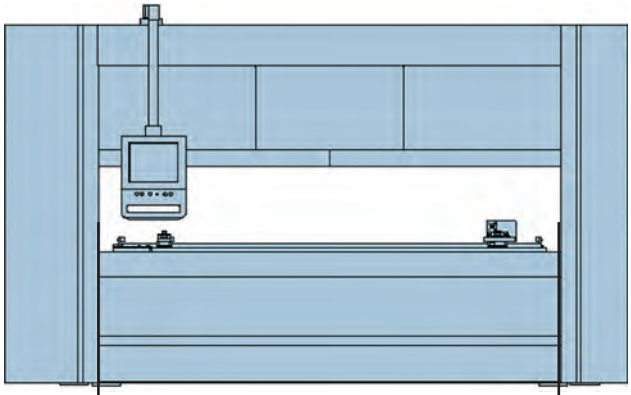
The eP-Series press brakes come with heavy duty front supports. They can optionally be mounted on linear guides and equipped with spring-aided, keyless height adjustment mechanism.

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

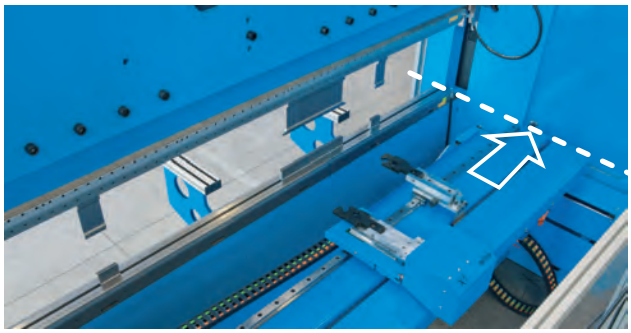
With Prima Power AQ bending follower these bending applications can easily be mastered by any operator. A second operator is no more needed.

Accurate tools and good clamping system are fundaments for correct angles. Prima Power recommends Wila tooling system which features several advantages:

- Quick fastening with patented safety click system
- Interchangeable high precision tools
- Tools can be installed in any position of the beam regardless of tool width (no shimming)
- Fastening mechanism both centralizes and straightens the tools automatically
- Horizontal reverse is possible because the adaptation is symmetrical to the center line
- Hydraulic clamping system is available for the shortest possible setups



Max bending length
also between side frames



Gauging over the whole bending length.

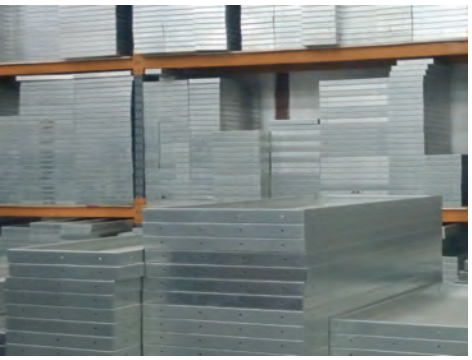
Relative X1-axis for gauging of e.g. conic parts.

Heavy duty front supports, 150 kg pay load each

AQ bending follower

Wila quick clamping tooling system.

Maximum productivity



The eP-Brake features the advantages of high acceleration, deceleration and fast response times of the servo-electric drive system. Compared to conventional 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 "Block Laser" 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.

green means®

eP-Brake green means in a nut shell

The Profit

Energy saving
- *50 % lower consumption than hydraulic brakes on an average*

Productivity
- *Thanks to the high dynamic electro mechanic drive system and "Block Laser" safety 30 % shorter cycle times on an average*
- *Quick change tooling systems, 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 machine*

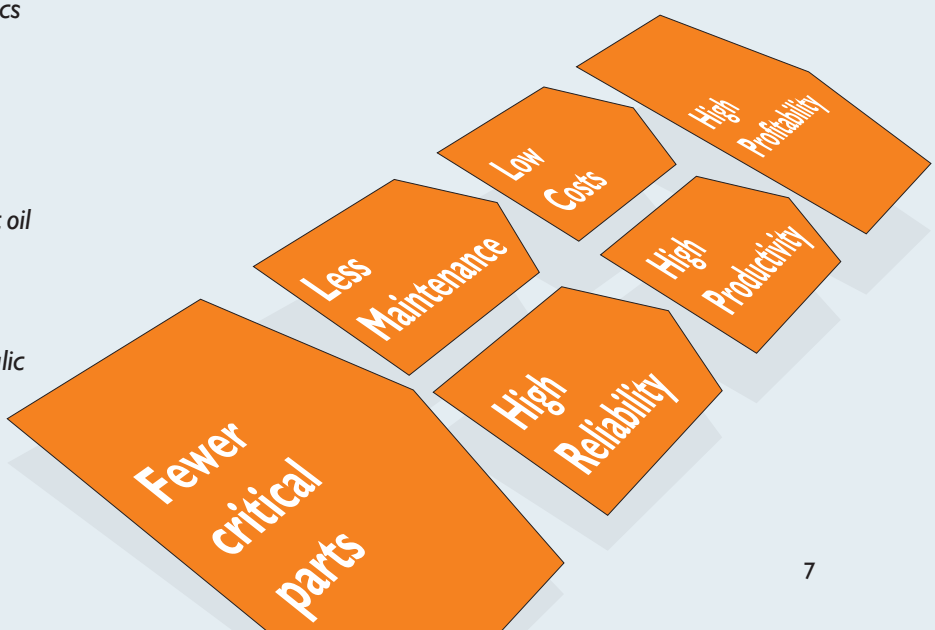
The Footprint

Less energy and waste of material
= less CO_2

No hydraulic oil
= no hazardous waste

Easy programming and high accuracy
= less waste parts

Higher productivity
= less machinery for the same production



Prima Power

The Bend
The Combi
The Laser
The Punch
The System
The Software

Prima Power eP1-0212
Servo-electric press brake

Prima Power eP1-0212

The Prima Power eP1 series press brake is a compact size, fast, accurate, non-hydraulic bending solution. The ram is driven by a combination of heavy duty servo motor and a high performance ball screw. This innovative machine concept combines productivity, accuracy, flexibility and reliability with high respect to ecological aspects – we call this concept "Green Means".

25 t, 1.2 m

Servo-electric, single ball screw drive system

Increased productivity

High accuracy

Energy efficient

Side frames out side of the max. bending length

Lazer Safe "Single Beam" or "Block Laser"

2D graphical NC control

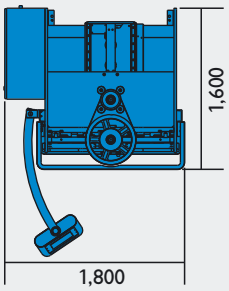
green means

Technical specifications eP1-0212

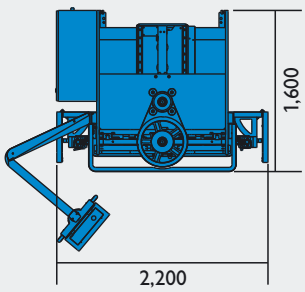
Force	kn	250
Bending length	mm	1,200
Distance between uprights	mm	1,250
Stroke	mm	200
Opening without tooling	mm	440
Throat	mm	120
Motor power	kW	7.5
Approach speed, CE / No-CE	mm/s	120 / 160
Working speed, CE / No-CE	mm/s	10 / 10 to 20
Return speed, CE / No-CE	mm/s	150 / 170
Stroke - back gauge axis x	mm	625
Speed - back gauge axis x	mm/s	600
Stroke - back gauge axis r	mm	200
Speed - back gauge axis r	mm/s	200
Length, CE / No-CE	mm	2,200 / 1,800
Width	mm	1,600
Height	mm	2,320
Weight	kg	3,450

Main dimensions

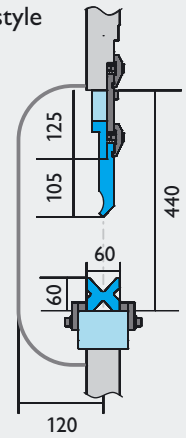
No-CE



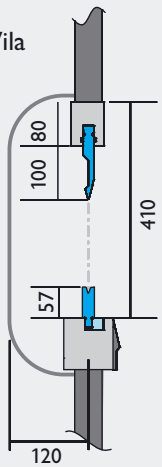
CE



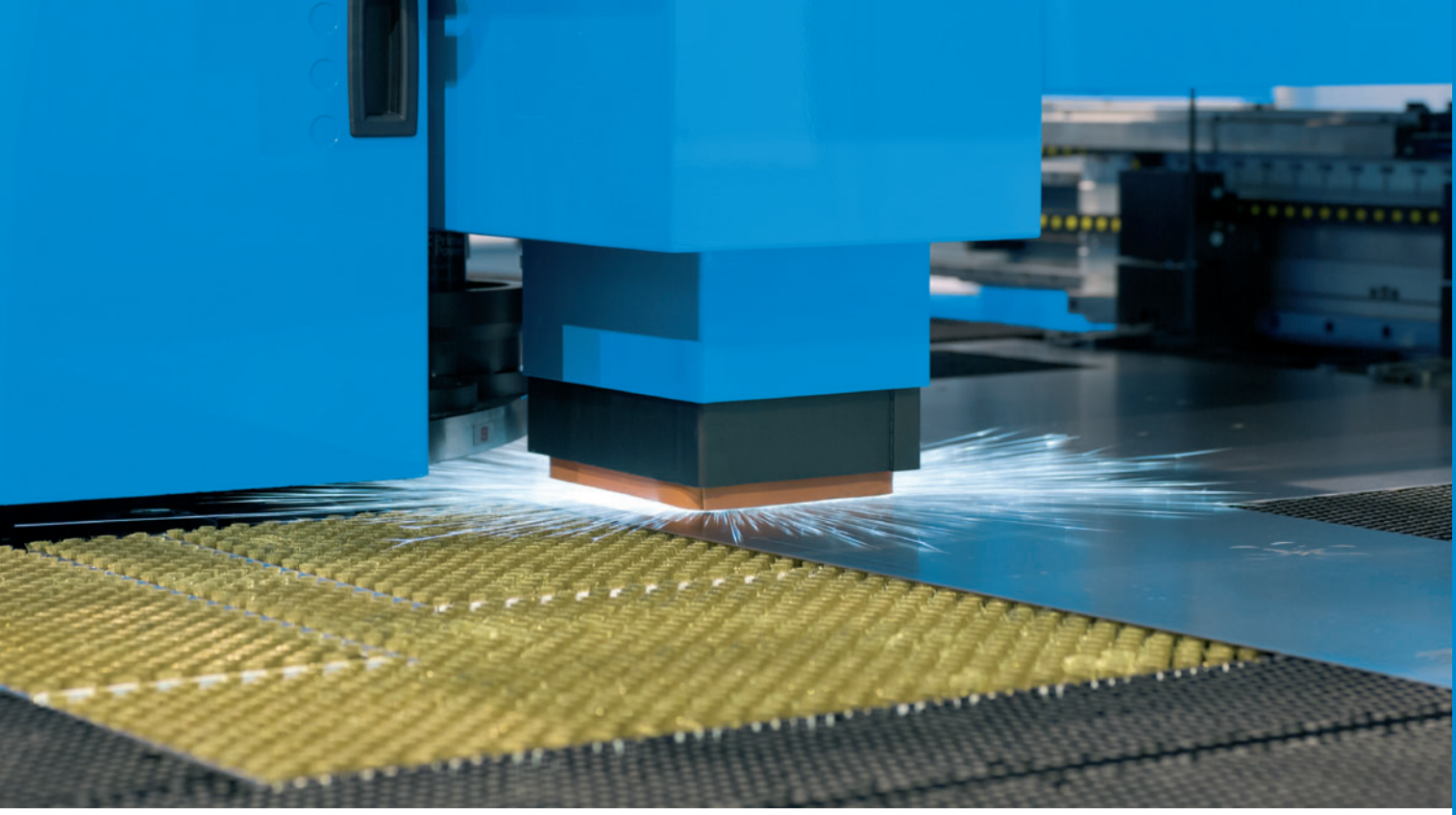
European style



Wila



primapower.com

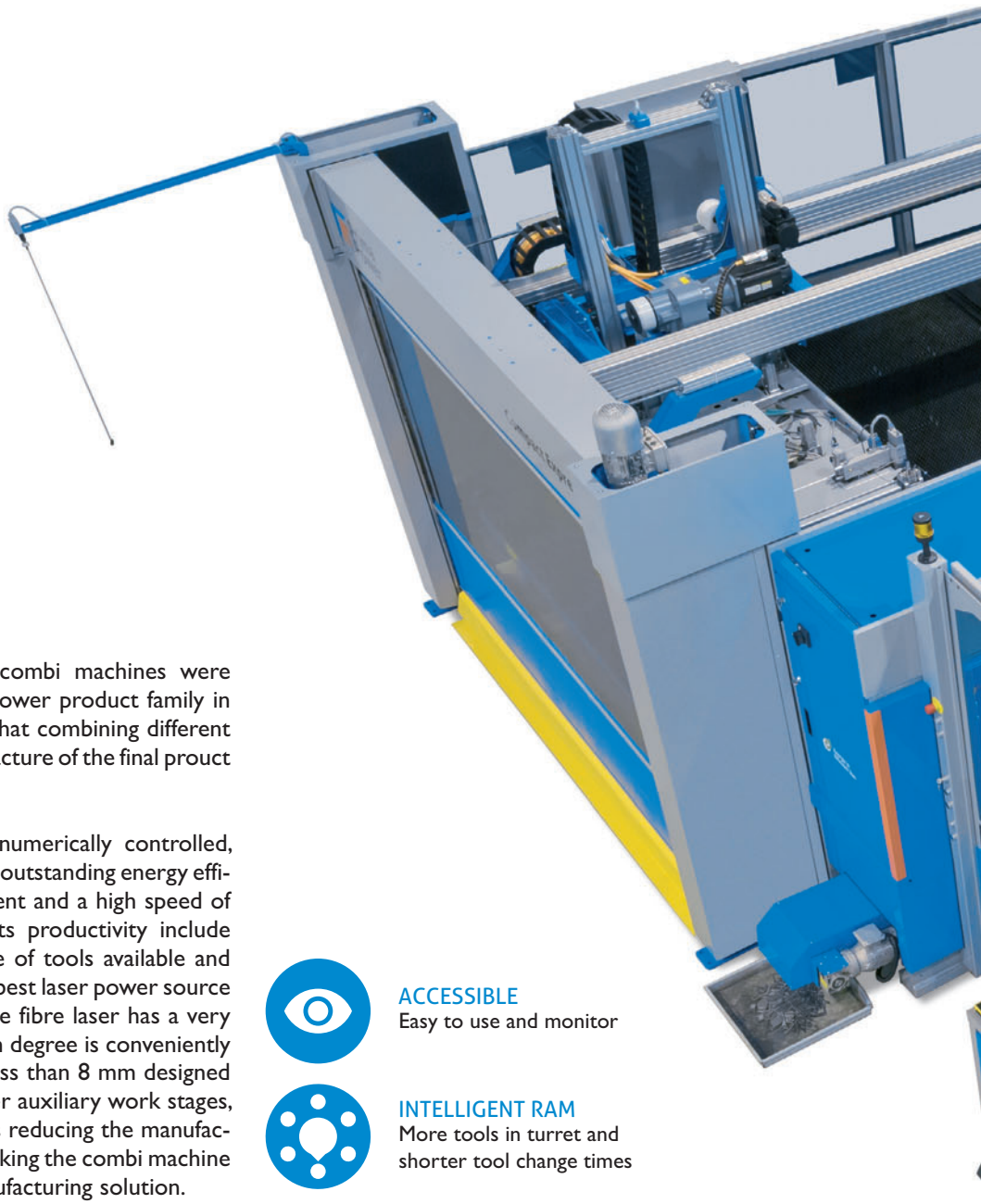


Prima Power

The Bend
The Combi
The Laser
The Punch
The System
The Software

Combi Genius – new generation punching and laser technology

Combi Genius – new generation punching and laser technology



The punching and laser cutting combi machines were already introduced to the Prima Power product family in 1989. It was noticed at that time that combining different work stages accelerated the manufacture of the final prouct and reduced the production costs.

A modern combi machine uses numerically controlled, servo-electric axes, which provides outstanding energy efficiency, low maintenance requirement and a high speed of operation. The cornerstones of its productivity include large tool capacity, the wide range of tools available and easy and fast set-up change. As the best laser power source for the combi machine, the genuine fibre laser has a very high efficiency. Its highest utilization degree is conveniently suitable for material thicknesses less than 8 mm designed for the machine. Forming and other auxiliary work stages, and ease of use are further factors reducing the manufacturing cost per component thus making the combi machine a productive and competitive manufacturing solution.

ACCESSIBLE
Easy to use and monitor

INTELLIGENT RAM
More tools in turret and shorter tool change times

SCRATCH FREE
Vertically moving brushes prevent the scratching of sensitive materials

The Genius philosophy

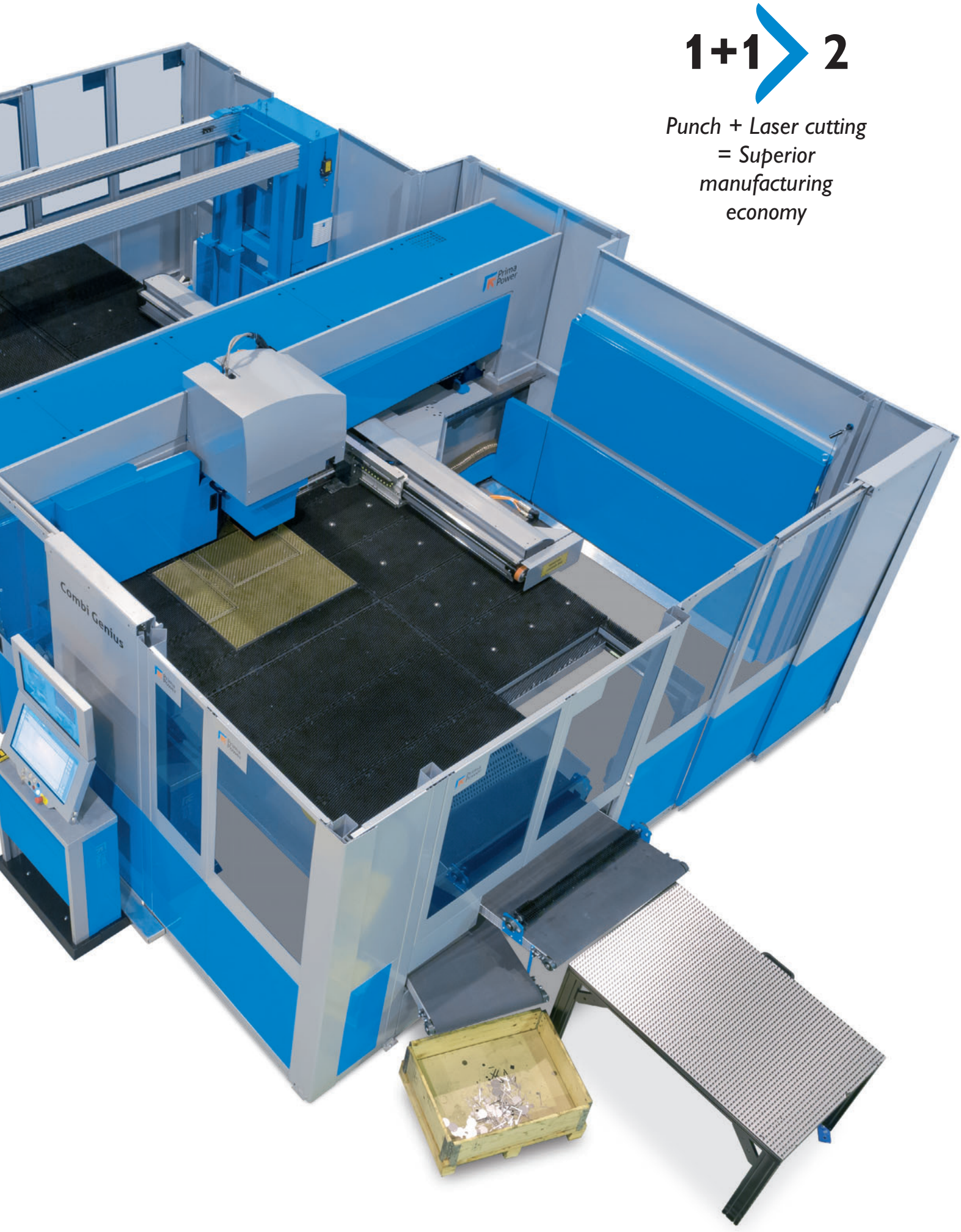
Prima Power is bold enough to name the new machine series Genius because it is extensively based on our customers' experience and wishes. We wanted to fulfill these expectations with Combi Genius, a compact machine with a small footprint, offering productivity, operation convenience and compatibility with a number of automation solutions.

Two performance levels

The new Genius series has models on two complementary performance levels. ***Pure*** meets all the targets set for an attractively priced, yet efficient production machine; ***Dynamic*** offers the best productivity and performance in the market. Both models come with the latest features and can be equipped with the whole range of options.

Easy cover protection system

Easy cover protection system around the machine is especially designed for the requirements of the combi machine. This provides protection from any scattered radiation of the fibre laser, but allows loading, unloading and maintenance procedures for the operator as easily as possible.


1+1 > 2
Punch + Laser cutting
= Superior
manufacturing
economy
Prima Power
Combi Genius

Accessible

Genius is operated with a modern control unit and its touch screen panel. Management of machine set-up and work queues is easy with the Tulus® user interface. The NC Express™ programming system and Tulus® work in perfect combination, provide comprehensive reports on machine and production status, and can be linked to the factory ERP system when required. Monitoring of machine operation is facilitated by four cameras that send image to the upper display. Special attention has been paid to ergonomics and user friendliness of the control unit.

A new bar code reader can be used to choose programs for the machine direct from a bar code on the work order.

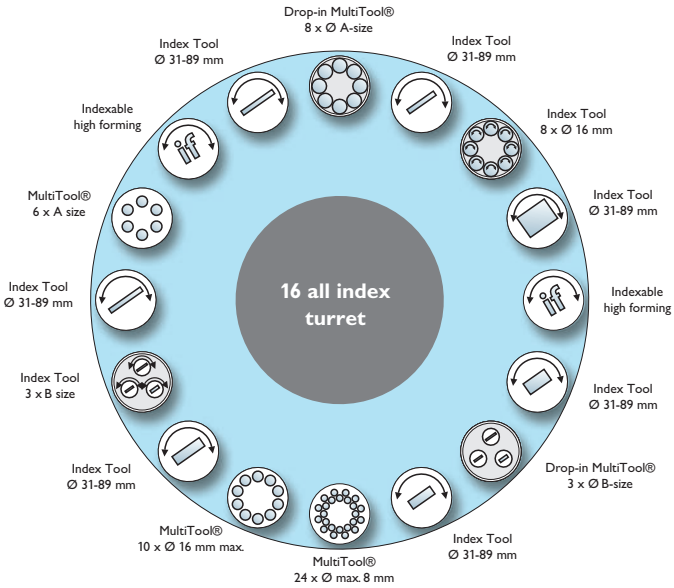
To make the operator's work easier, a new Android-based Tulus® MUPS application has been developed. It provides instructions for tool set-ups and other operation tasks.

Manual loading and unloading is facilitated by a movable table top. Thus even the smallest sheets can be handled close to the operator. The loading of heavy sheets is made easy with vertically moving sheet supports.

Machine tables have been redesigned and equipped with more dense brushes, which together with the more solid table frame enable handling of sheets up to 250 kg in weight.

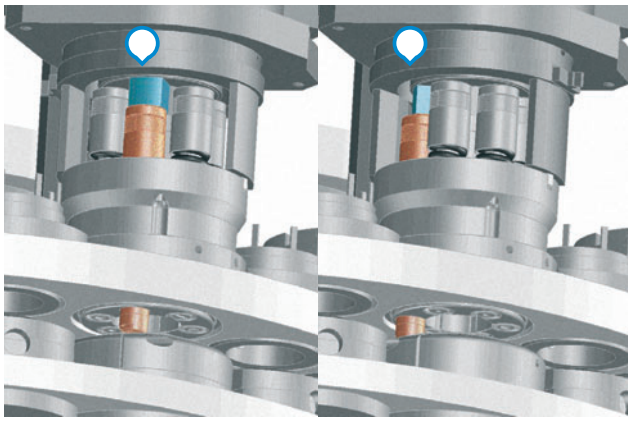
Clamp position is programmable for maximum sheet utilization and the position is changed automatically with the PCS function.

Genius can be equipped with three clamps, which can be moved automatically and individually to a new position during program run to maximize sheet utilization without repositioning.



Tooling can be flexibly selected as required by the application. Up to 384 standard or 128 index tools can be simultaneously available in the turret. More value can be added to the end product by using special tools such as tapping, bending, marking and forming tools. 16 and 20 hole turrets are available.

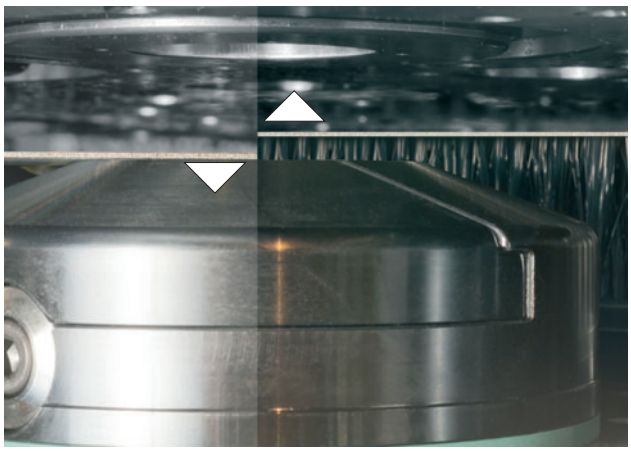
The set-up of all punching, forming and special tools is easy using the graphical tool library of the Tulus® operating system. Automatic tool lubrication system and vacuum assisted scrap removal are available as options.



Intelligent ram

A new option is the Intelligent Ram which shortens tool change time and increases the number of tools in turret and especially that of index tools

Up to 300 kN servo-electric punching force can be selected for the ram. Automatic overload protection and central lubrication ensure dependable machine operation.

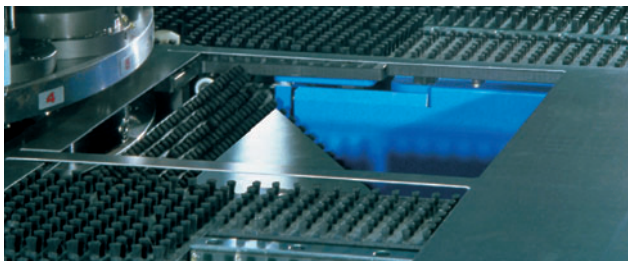


Scratch free

A new feature is having moving brushes also in front and inside of the turret, which prevents effectively the scratching of sensitive materials. The movement is activated by the program when needed.

Further options include the servo operated tapping unit TU6, automatic labelling device and Inkjet marking device.

The high-precision, servo-electric, indexable upforming cylinder provides 200 kN of forming power for speedy making of even high and complicated forms.



The work chute for punched components is sized 500 mm x 500 mm. Component removal is assisted by a new air blow unit. Options that can be added after the work chute are component identification system, component conveyor and sorting unit SU6.

The optimized cutting head, collimator, delivery fibre and cutting parameters guarantee the highest cutting quality and speed for the Prima Power combi machine in the market. The high-quality and powerful fibre laser is available either with 3 kW or 4 kW power.

For the laser-cut parts, two drop doors are provided as standard; 300 mm x 400 mm for quicker sorting and 800 mm x 800 mm for larger parts.

From the drop door, the parts are transferred by conveyor to the side of the machine to be unloaded manually or forwarded with different conveyor solutions.

Flexible automation

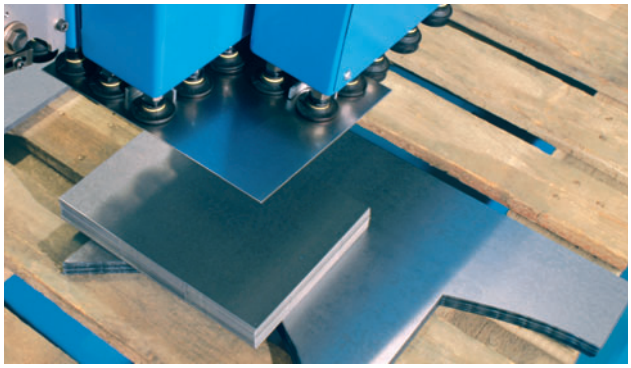
Automation equipment

SU sorting unit for small components

UDC unloading device for skeletons and micro-jointed parts

Compact Express loading and unloading device

LST loading and stacking system; can be integrated with COMBO and Night Train storage systems



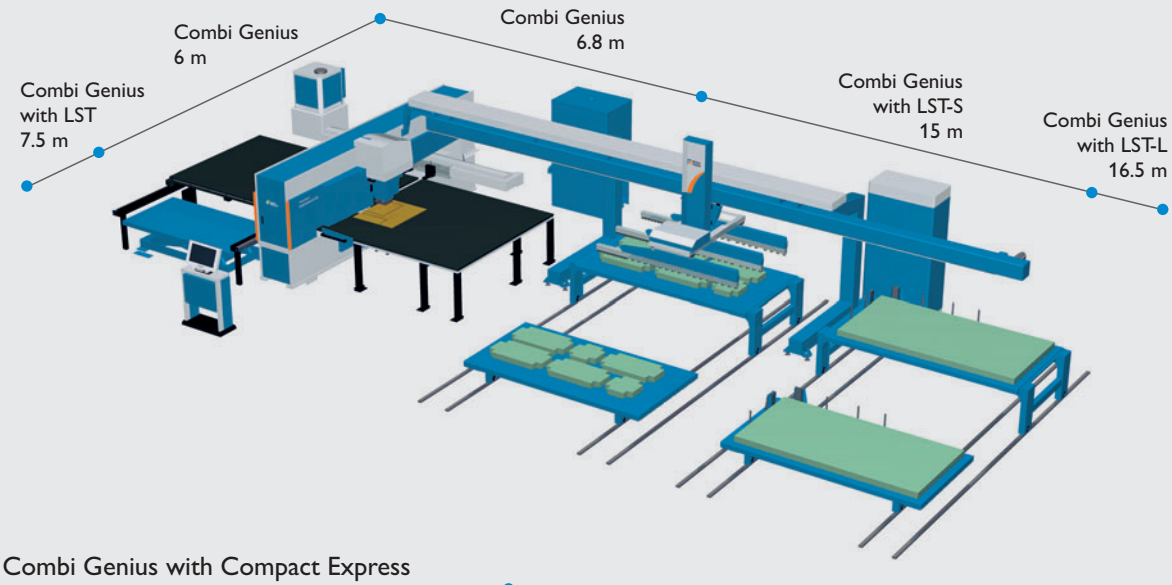
LST loading and stacking system can be chosen for automatic loading, component picking and stacking to programmed coordinates in the palletizing area.

Loading and unloading can be automated with Compact Express equipment. New features include scratch-free sheet escort during unloading and remote control of the door. Moving upper frame beam and optimal placement of the safety equipment reset button are convenient when loading or unloading using a forklift.

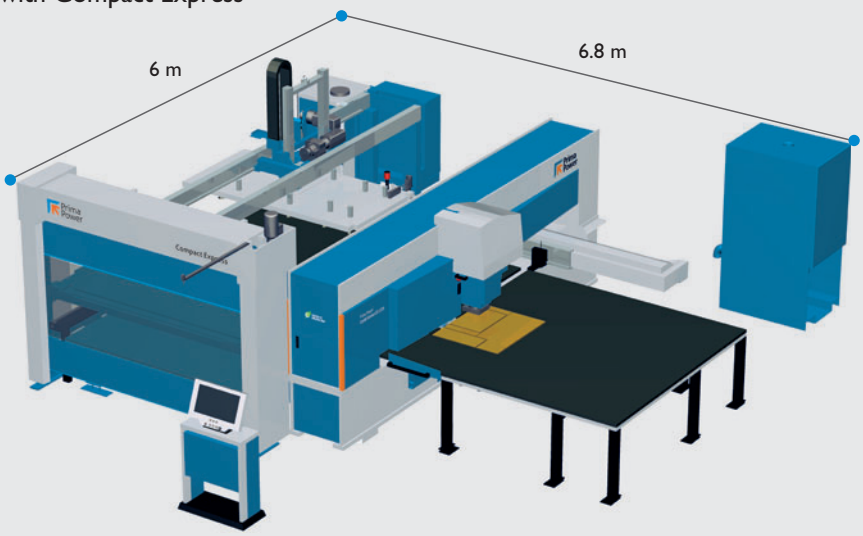
Technical specifications

Approximate main dimensions without safety systems

Combi Genius
Combi Genius with LST short
Combi Genius with LST long



Combi Genius with Compact Express



	Max. sheet size	X movement	Table height
CG1225	2,500 mm x 1,250 mm	2,500 mm	935 mm
CG1530	3,000 mm x 1,500 mm	2,500 mm	935 mm

	CG Pure	**CG Dynamic**
Punching force	230 kN	300 kN
Punching speed	700 1/min	1,000 1/min
Axis positioning speed	108 m/min	127 m/min
Index rotation speed	180 r/min	250 r/min
Max. no. of tools / index tools	16 hole turret 280/80, 20 hole turret 384/128	
Laser power	3 kW or 4 kW	
Max. sheet thickness, punch and laser	8 mm (Al, Mild steel, Stainless steel)	
Max. sheet weight	250 kg	
Average power consumption	11 kW	

Prima Power

The Bend
The Combi
The Laser
The Punch
The System
The Software

LPe6f / LPe8f
Premium series punch laser combination

Prima Power LPe6/8f – the premium series punch laser combination

One + one is more than two

The LPef series combines high end servo-electric punching and state of the art fiber laser technology in a manufacturing solution that offers outstanding flexibility, speed, accuracy and productivity to fabricate the most challenging products.

1+1 > 2

Prima Power Touch screen operating system.

INCREASED PERFORMANCE

Compared with the previous series, the performance values have reached a new level:

Punching speed	**+ 20 % faster**
Tool rotation speed	**+ 51 % faster**
Tool change time	**+ 25 % faster**
Laser start	**+ 91 % faster**
Average cycle time *	**+ 13 % faster**

* Using 3 kW fiber resonator

This Green Means® solution has low energy consumption and low maintenance requirement; thus the components produced are not only accurate, they are always economically manufactured.

There are two machine sizes available, the LPe6f for max. sheet size 3,074 mm x 1,565 mm and the LPe8f (4,300 mm x 1,565 mm).

green means®

Safety equipment is not shown in the illustrations.

WHY PUNCH LASER COMBINATION

Very fast reaction times are expected in modern production. The machines need to be flexible and extremely fast for a quick response to production orders, often for very small quantities. The punch laser combination makes it easy:

With laser cutting there are:

- no burrs
- no nibble marks
- no worries about tonnage
- no tools
- no die clearance
- no sharp corners

… and when you punch you can also:

- tap
- countersink
- form
- rib
- make extrusions
- hem
- make louvers

LPef is unbeatable when it comes to versatility and flexibility, combining multiple operations in one machine. This Lean Manufacturing style reduces cost per part; parts will be made fast, easily and accurately through one machine by one operator using only one operating and programming system.

Modern software

The latest version of Tulus® operating system in new PC-based control makes the machine more productive but also supports the user in many ways. Innovative queue and stacking management informs all possible set-up changes between the programs well in advance. Production planning becomes seamless.

Integrated tool library with NC Express™ programming and servo-electric punching make tool setup and adjustment easy and fast. Laser parameter database and online corrector are a user friendly tool for controlling the laser cutting process. This all together makes the punch laser combination beat two separate systems.

Key data LPe6f / LPe8f

2, 3 and 4 kW fiber laser source

Punching speed up to 1,000 hpm / 1 mm
500 hpm / 25 mm

Punching forces up to 30 tons (33 US ton)

Punching and laser cutting capacity up to 8 mm

Sheet positioning speed 150 m/min

Individual clamp movement for full sheet utilization

Tooling capacity up to 384 tools with Multi-Tool® index stations for minimum set up times

Brush tables for low noise, sheet support and avoiding scratches

Average power consumption 11 kW

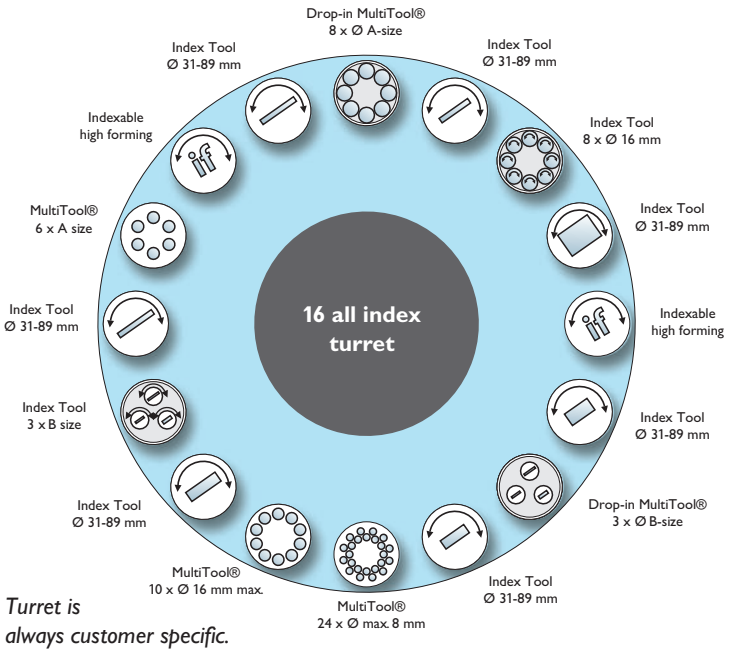
PC-based control

High-performance servo-electric punching

The high-end Premium series turret punch press of the LPef has properties such as automatic tool length measurement, optimization of stroke length and easy adjustment of the punching stroke. These combine with others, adding up to faster set-ups and more ease of operation. The punching speed, tool rotation and tool change time are improved. The punching side is the fastest ever seen in punch laser combination in Prima Power history providing higher capacity.

The punching stroke is NC-controlled and thus, in addition to high-performance punching, outstandingly accurate forming capacity is available. High repeatability facilitates forming, roll forming, marking etc. and shortens set-up times.

The Programmable Clamp Setting function automatically positions sheet clamps according to numerical program, minimizing clamp dead zones. When changing production from full size to small sheets, clamp settings can be made automatically without wasting operator time. With this option the full sheet can be really always utilized.

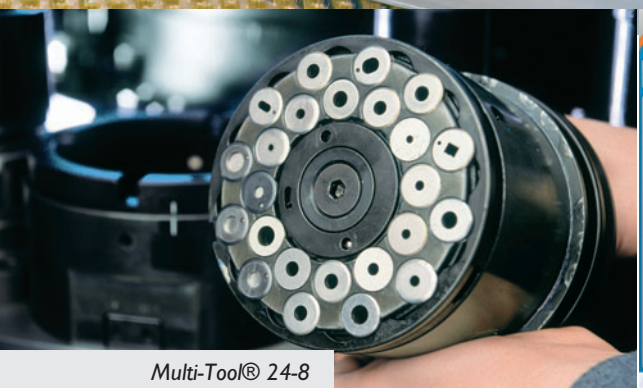


Turret is always customer specific.
In this example, there are 71 tools, of which 20 index tools.

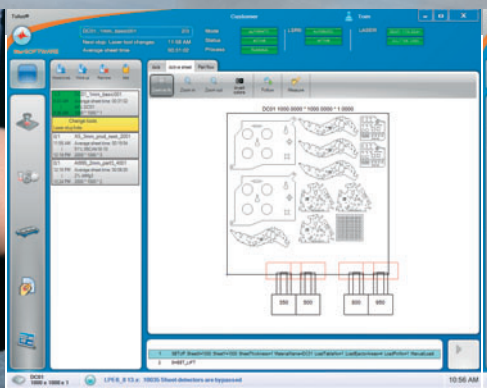
Options

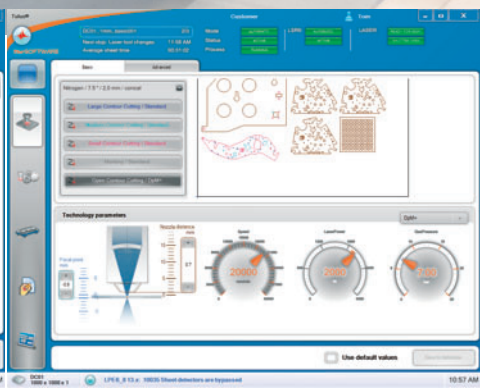
For even more versatility, the turret punch press can be customized using a wide range of options:

- Upforming
- Component marking
- Extra clamp and individual clamp movement
- Multi-Tool® stations
- Lifting brush tables
- Quick Change Die Holder and barcode reader
- Scrap conveyors
- Vacuum system
- Work chute (500 mm x 500 mm) & part sorting
- Tapping tools & 6-head tapping unit



Multi-Tool® 24-8

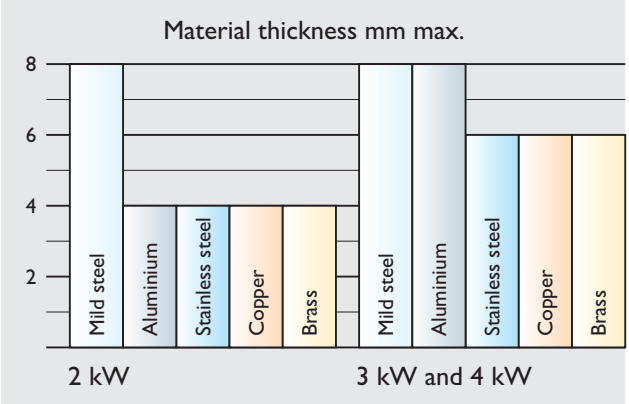




Adjusting punching and laser parameters is easy with touch screen and visual controls.

Fiber laser cutting

The laser used in the system as its most flexible tool is a 2, 3 or 4 kW high brilliance fiber laser. Cutting speed increases in proportion to power. Totally closed cabin design for eye safety and noise reduction is always included with the system.



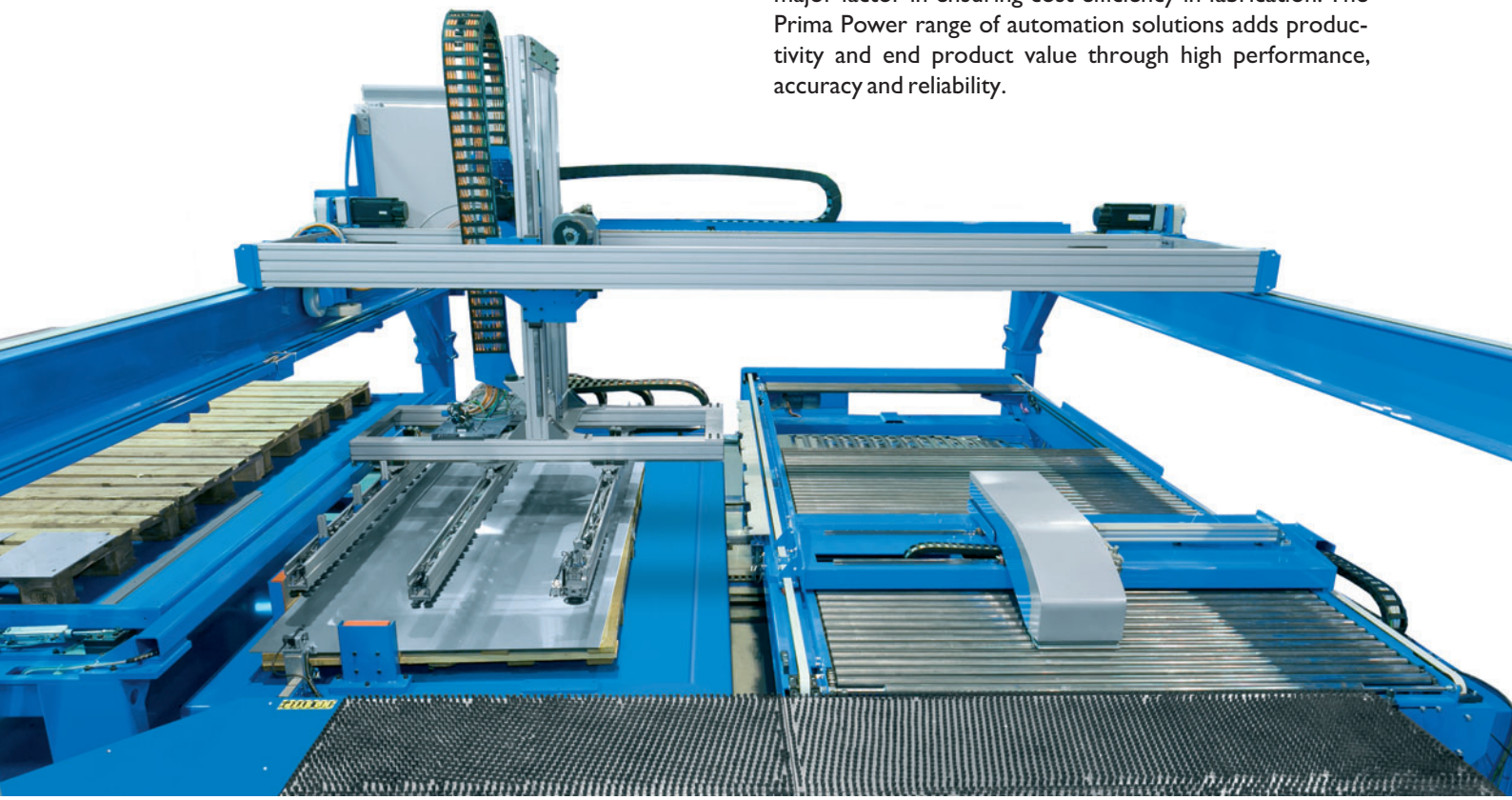
With the integrated fiber laser a wide range of material can be cut such as copper or brass. A significant reduction in operating cost is achieved because the laser has no maintenance requirements, no laser gas is needed and energy consumption is far smaller compared with other solutions.

Further benefits are

- No expensive beam manipulation is needed to control beam divergence
- Cutting head collision protection
- Long lens and nozzle life
- Efficient dust collection due to fixed cutting point – cleaner working area
- Easy integration of a robust protection device around the cutting head
- Sheet vibration damping when cutting thin material
- Prevention of scattered radiation

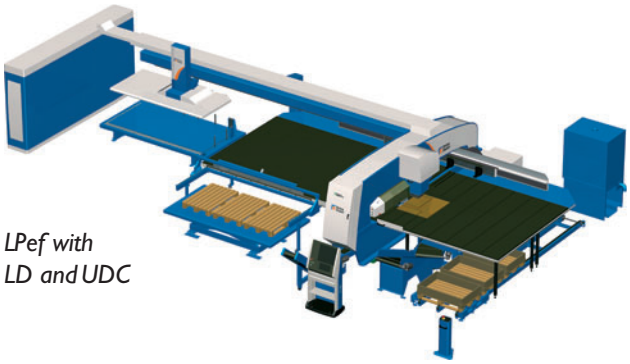
Flexible automation

Reliable unmanned operation with small footprint is a major factor in ensuring cost efficiency in fabrication. The Prima Power range of automation solutions adds productivity and end product value through high performance, accuracy and reliability.



LD loading device

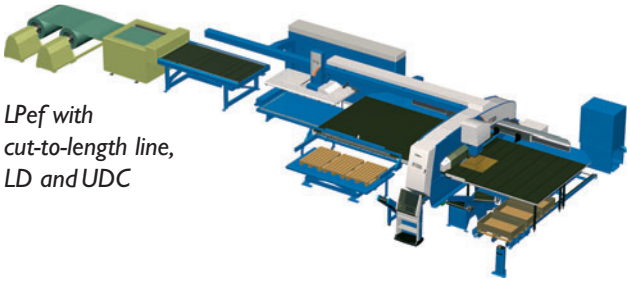
Prima Power LD is automatic loading device. One fixed or two moving tables can be chosen. With two wagons, production can be arranged with no interruptions when using additional door and separate safety areas for pallet change. Two moving tables give more capacity and can also be connected to COMBO and Night Train storage system. LD can also feed sheets from cut-to-length lines to the machine.



LPef with LD and UDC

UDC – Unloading device Compact

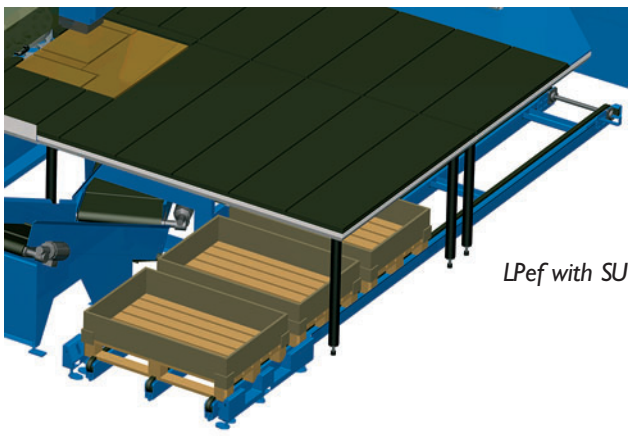
UDC is an automation solution for unloading the skeleton and micro jointed parts along with skeleton. UDC is integrated as part of machine, and additional floor space is not required.



LPef with cut-to-length line, LD and UDC

SU – sorting unit for small parts

The SU is used for sorting parts coming out from the work chute of the machine. Micro joints can be avoided as parts can be punched or laser cut loose and dropped onto a conveyor through a work chute. SU sorts them directly to pallets. It is a perfect low-cost solution for small part sorting automation.

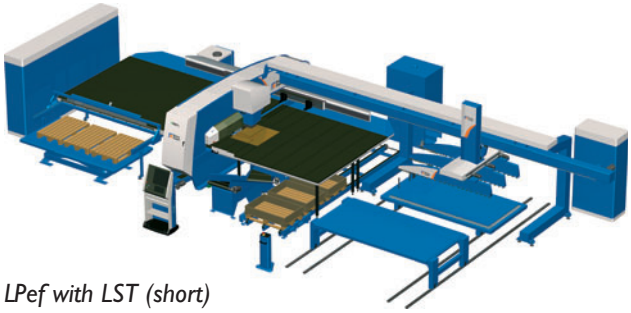


LPef with SU

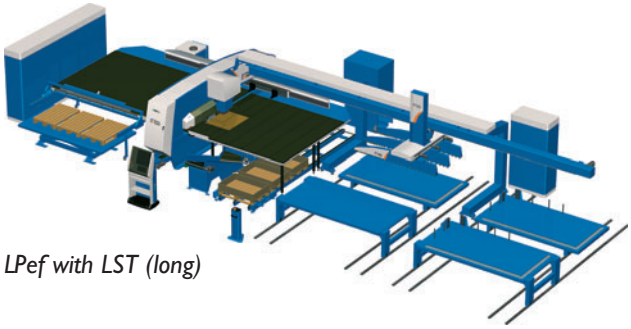
LST – loading and stacking robot

Loading and stacking robot LST provides a reliable, fully automatic process.The operator is free for other task while machine productivity and utilization increases dramatically. LST loads sheets to the machine, picks up parts from it and stacks them to programmed coordinates in stacking area. Skeletons are unloaded and placed on the skeleton table from machine with the unloading device UDC.

The RALC (robot assisted last cut) option eliminates the risk of parts sticking in the skeleton.



LPef with LST (short)

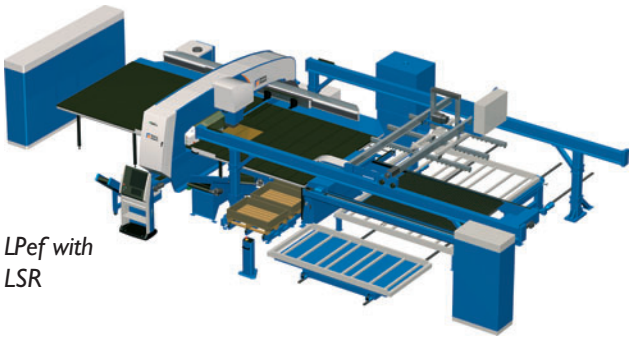


LPef with LST (long)

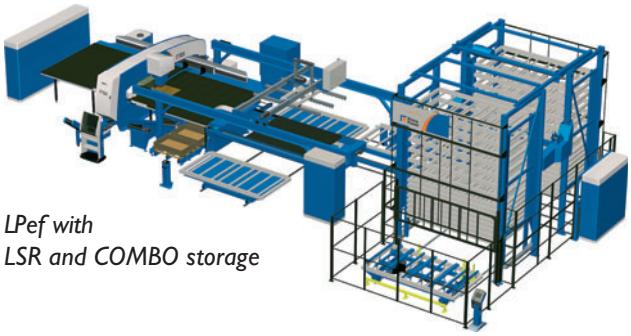
LSR – loading and stacking robot

The high-performance portal type loading and stacking robot LSR can be integrated with LPef. LSR provides a reliable, fully automatic process from loading to picking of parts and stacking them. Skeletons are unloaded with unloading device UD. The operator is free for other task while machine productivity and utilization increases dramatically. One machine side is free for e.g. fast single sheet production.

The RALC (robot assisted last cut) option eliminates the risk of parts sticking in the skeleton.



LPef with LSR



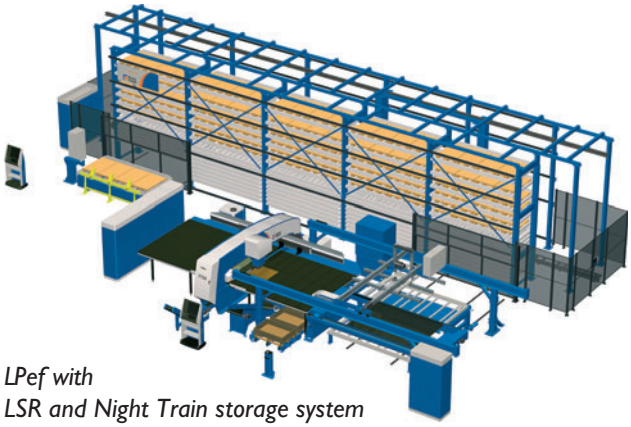
LPef with LSR and COMBO storage

COMBO and NightTrain storage systems

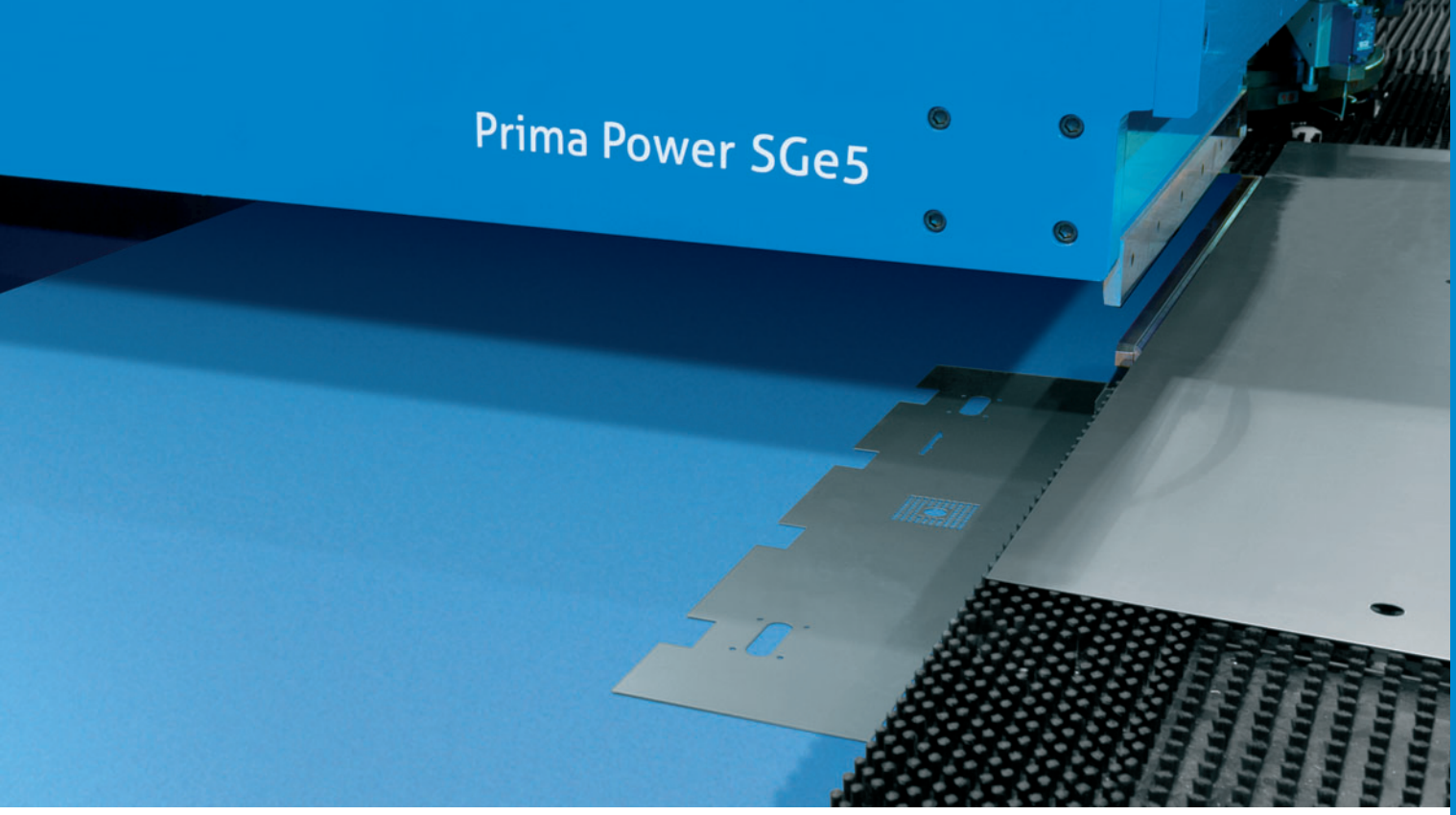
LST and LSR can be connected to COMBO FMS® or Night Train FMS® storages when even more capacity is needed or the machine is to be connected to another process flow.

COMBO storage makes different materials available at the working point quickly and practically and can also serve as intermediate storage for ready components and as a buffer.

Night Train FMS® automates the material and information systems of a facility and combines individual manufacturing stages into a single flexible process.



LPef with LSR and Night Train storage system



Prima Power

The Bend
The Combi
The Laser
The Punch
The System
The Software

Shear Genius® SGe5
– punching and shearing made easy to adopt

New Shear Genius® SGe5 – major savings in fabricating middle / small format material

Championed by Prima Power since 1987, and with productivity and performance proven in more than 2,000 applications, the Shear Genius® concept of integrated punching and shearing brings major savings.

1+1 > 2

Punch + Shear = Superior manufacturing economy

- no need for pre-cutting / pre-cut sheets – no need for separate shear units
- better material usage – more parts fitted in same nest
- no skeletons – less material waste, easier waste handling
- no nibble marks in components – better part quality
- shearing is fast, accurate and reliable – easy to automate
- more automation – unnecessary manual work stages can be eliminated, smaller labour costs
- fewer punching hits – less noise - less wearing of tools
- low operation and maintenance cost – large output, small fixed costs

This translates into superior manufacturing economy: you produce better components at a lower cost and faster with improved factory logistics and safety.

1 Modern 19" touch screen operating system, own programming system (NC Express™) and cell control (Tulus®) work seamlessly together making the machine easy and reliable to use.

2 Machine is equipped with 3 clamps, automatic clamping and programmable clamp setting (PCS) to ensure fast loading and clamp movements.

3 High-performance servo-electric 170 and 230 kN water cooled punch press.

4 Flexible turret with up to 250 tools simultaneously available. True flexibility with optional multitools, index-stations, tapping, wheeling and forming properties.

Servo-electric technology – speed, accuracy and economy

Both punching and right angle shearing are servo-electric. High performance values and excellent accuracy are achieved using only a fraction of the energy required by other technologies.

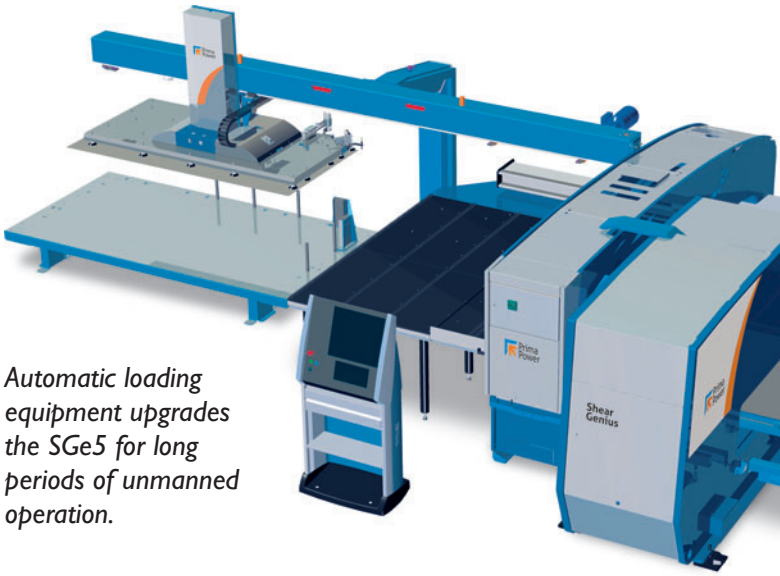
Punching properties include automatic tool length measurement, optimization of stroke length and easy adjustment of the punching stroke, all making set-ups faster and operation easy.

The punching stroke is NC-controlled and thus, in addition to high-performance punching, outstandingly accurate forming capacity is available. High repeatability facilitates forming, roll forming, marking, wheeling etc. and a wide selection of different Multi-Tools® shortens set-up times.

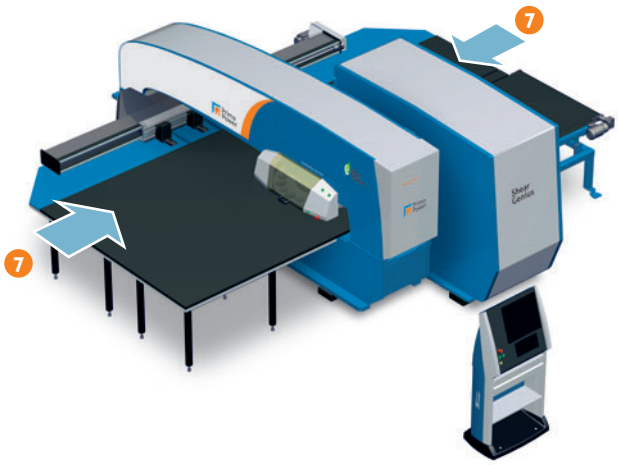
The Programmable Clamp Setting function automatically positions sheet clamps according to numerical program, minimizing clamp dead zones.

Wide range of options

The basic SGe5 is ready to produce the most intricate components – in one-piece production using only the punching capacity, or in serial production. The numerous options available for the punching unit and the handling of raw material and sheared components allow you to raise the automation level – now, or in the future through retrofits.



Automatic loading equipment upgrades the SGe5 for long periods of unmanned operation.



5 Servo-electric right angle shear: manufacturing speed, savings of material and excellent edge quality.

6 Reliable automatic exit of components for the next work stage or automatic handling with optional equipment.

7 The SGe5 can be operated from either side of the cell.

Main technical data SGe5

Ram force	170 and 230 kN	
Max. tools in turret / index tools	250 pcs / 80 pcs	
Hit speed, max.	700 1/min	
Nibbling	1,800 1/min	
Positioning speed, max.	108 m/min	
Index tool rotation speed	133 rpm	
Connection requirement	3 x 20 A / 400 V	
Average energy consumption	4 kW	
Material thickness, max.	Punching	Shearing
Al	8 mm	4 mm
Mild steel	8 mm	3 mm
Stainless steel	8 mm	2 mm
Max. sheet size	2,500 mm x 1,250 mm	
Combined working area		
with single clamping	1,800 mm x 1,250 mm *	
Floor space	42 m²	
Weight, appr.	14,000 kg	

* Working area can be expanded using repositioning

Contact your Prima Power company or representative for full technical data of the Shear Genius SGe5.

Prima Power

The Bend
The Combi
The Laser
The Punch
The System
The Software

Shear Genius®
Integrated punching and shearing

The vast majority of all fabricated sheet metal components are rectangular, so a highly economical method to produce them is to perform first punching and then shear the components loose in the same automatic process with an integrated right angle shear. Also, parts with two or three straight edges are perfect for fabrication with a right angle shear.

Shear Genius® provides more capacity, quality and cost-efficiency for flexible sheet metal working than any comparable system. Twenty years of experience in right angle shear technology combined with proven field performance in nearly 2,000 applications throughout the world has allowed providing Shear Genius® with major benefits:

- automated flexible fabrication
- no skeletons, less punching scrap – savings in raw material
- no nibble marks
- higher productivity
- reduced manufacturing costs
- faster return on investment

The Shear Genius® provides the competitive edge for today's demanding business environment.

Energy in Efficient Use®

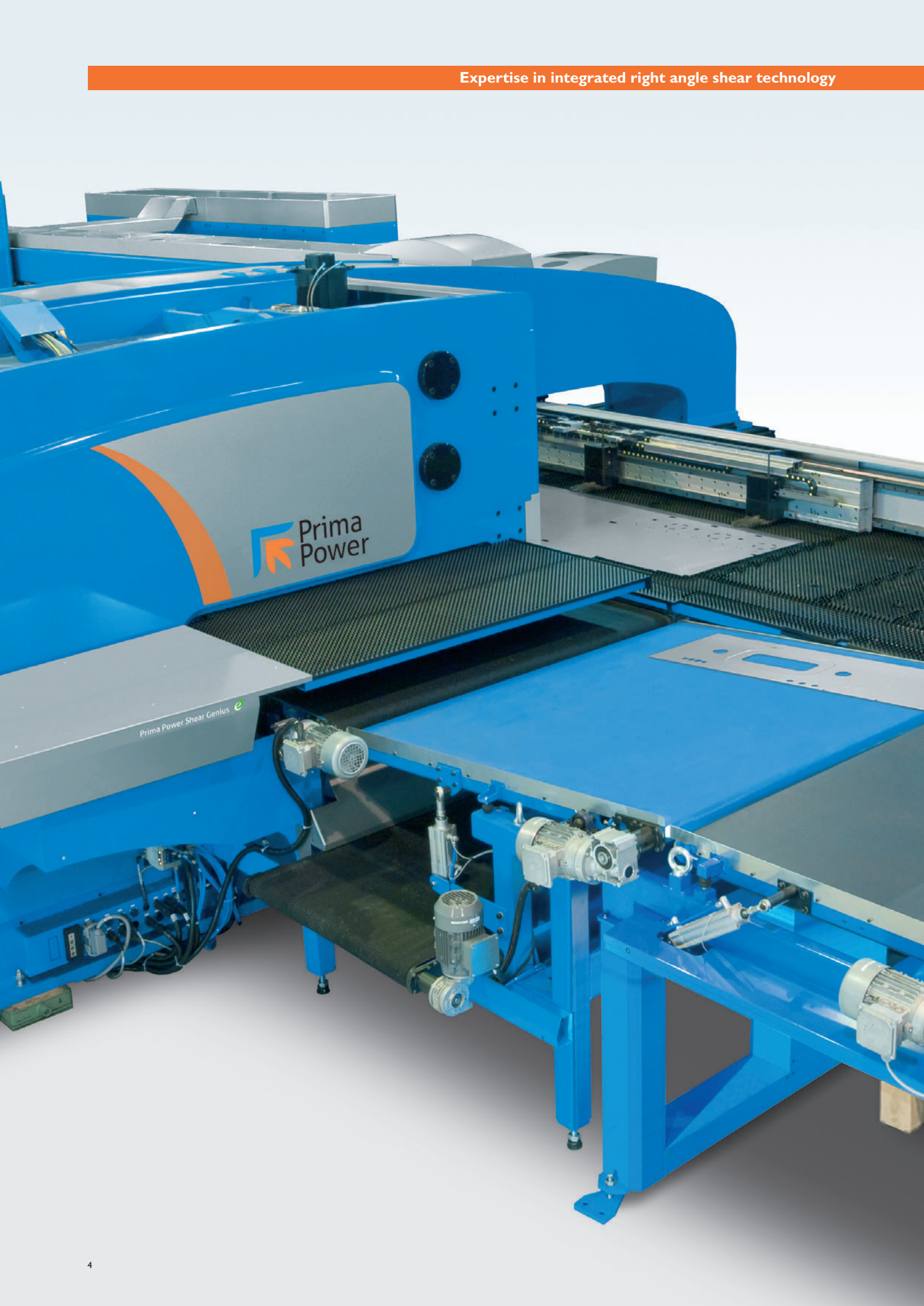
Servo-electric Shear Genius® SGe

Highest productivity with integrated shearing

Competitive edge for today's demanding business environment

Prima Power's basic Shear Genius® package consists of
* Automatic loading equipment
* 300 kN (33US ton) servo-electric turret punch press with capacity up to nearly 400 tools
* Integrated right angle shear

There are two Shear Genius® models for standard size sheets (max.)
* SGe6: 3,074 mm x 1,565 mm (120" x 60")
* SGe8: 4,300 mm x 1,565 mm (170" x 60")


Prima Power
Prima Power Shear Genius e

THE SHEAR GENIUS® PHILOSOPHY

The Shear Genius® philosophy is to provide one machine capable of transforming a full sized sheet into finished parts with scrap separated. These parts can be moved to final production stages without the need for secondary operations for costly material handling between loading, punching, shearing, sorting and unloading. With Shear Genius® you can use pre-cut sheets, but normally standard size sheets are processed while major savings are achieved through efficient nesting.

It is important not to think that this is the only way that Shear Genius® can be operated. When you need just a punching operation, Shear Genius® can be operated just as high-accuracy, high-performance turret punch press.

No other manufacturer approaches the Prima Power expertise in integrated right angle shear technology. This core competence enabled us to engineer new, productive features into a proven concept for increased productivity and material savings. By combining several work stages into an automated process, the Shear Genius® concept saves material, eliminates manual handling, decreases necessary floor space and investment in separate machine tools, tooling and energy.

Today, right angle shear technology is used throughout the industrial world in most varied applications, as independent production cells, or as central units within automatic material handling systems up to a factory-wide FMS level.

Here are some of the reasons why:

1) Avoid the cost of pre-shearing

Pre-shearing is a waste of time and money. Moreover, it is extremely difficult for a stand alone shear to achieve anything like the accuracy of components manufactured by an integrated right angle shear.

2) Just the right edge quality

One stroke detaches one or several components. Micro jointed or nibbled components often require an additional work stage, such as deburring, to improve edge quality. A right angle shear produces sufficiently high edge quality for practically every purpose. The component is usually ready for the next work stage as it unloads from the machine. For example, there is no oxide layer on the edges to be removed before painting.

3) Practically no consumables

As for consumables, Prima Power's right angle shear technology uses only energy and compressed air. The blades have several cutting edges – enough for years of production with an occasional sharpening. Blades, like punching tools, can be sharpened numerous times.

4) Don't pay for material you don't need

Modern production planning and automatic nesting software allow optimizing the use of raw material – a significant cost item in the production of sheet metal products. Compared with traditional methods, an integrated right angle shear can save significant raw material costs. The Shear Genius® method makes maximum use of material and eliminates micro-jointed parts and further manual operations.

5) Automated solution

Shear Genius® automates loading, punching & shearing with secondary work stages, as well as component exit. It eliminates manual separation of micro-jointed parts. The modular design of the Shear Genius® allows the addition of sorting and stacking equipment after the initial installation. The reliability of shearing and automatic component removal are inherent benefits of the right angle shear concept, and make Shear Genius® the optimum machine tool for high-level automation and unmanned operation.

SERVO-ELECTRIC HIGH-PERFORMANCE PUNCHING

An early and major step towards sustainable fabrication was taken on the introduction of the servo-electric E series turret punch press in 1998. Now Prima uses already the third generation of this technology.

The inherent benefits of servo-electric include energy efficiency, versatility and accuracy and low maintenance cost. This amounts to superior fabrication capabilities as well as outstanding operation economy, i.e. truly remarkable savings.

Performance values are truly impressive:
* Hit speed up to 1,000 hpm
* Sheet positioning speed up to 150 m/min
* Index speed 250 rpm
* Max 300 kN ram force
  available for all machine functions and for all tools

Servo-electric Shear Genius®: the benefits

+ Average power consumption 6 kVA / 5 kW
+ Power supply connection 17 kVA (3 x 25 A fuse / 400V)
+ Low energy consumption at three power modes: run / stand by / idle
+ Low maintenance cost
+ High versatility
+ High performance values
+ Wide range of options

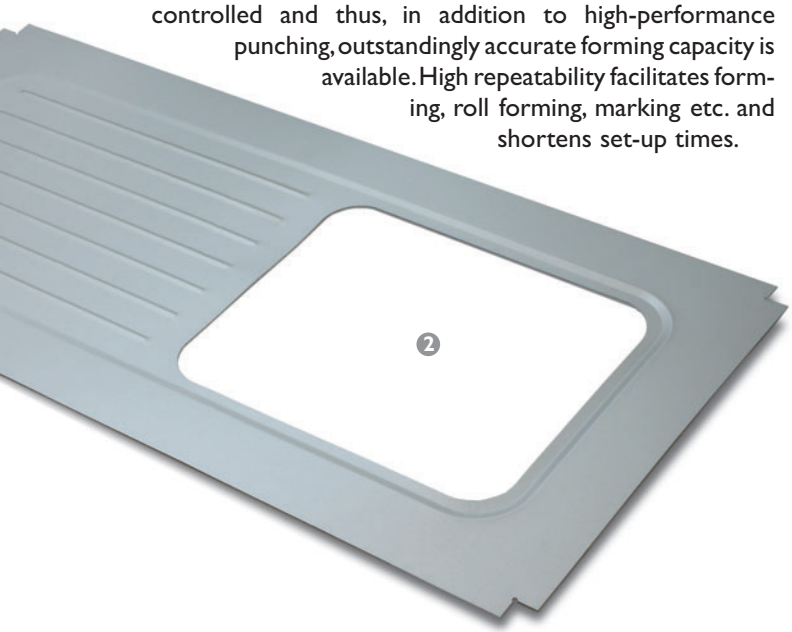
= **Very high productivity in most varied applications**

Ease of operation 1

Prima Power punching technology has properties such as automatic tool length measurement, optimization of stroke length and easy adjustment of the punching stroke. These combine with others, adding up to faster set-ups, more ease of operation and higher capacity.

Punching and forming 2

The servo-mechanically actuated punching stroke is NC-controlled and thus, in addition to high-performance punching, outstandingly accurate forming capacity is available. High repeatability facilitates forming, roll forming, marking etc. and shortens set-up times.

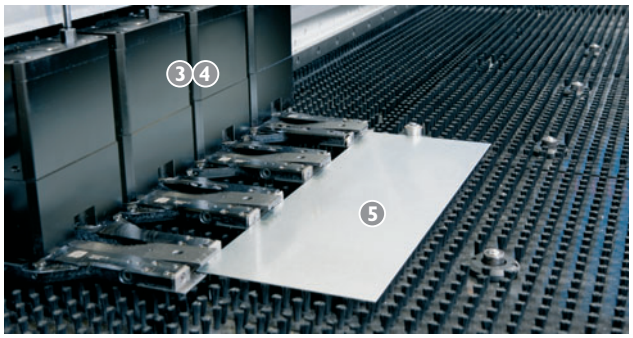


Sheet positioning 3

The machine features an axis actuation system based on maintenance free AC-servo motors. The construction allows positioning speeds up to 150 m/min; acceleration of the axes is adaptive and accuracy excellent.

Automatic clamp setting and moving 4

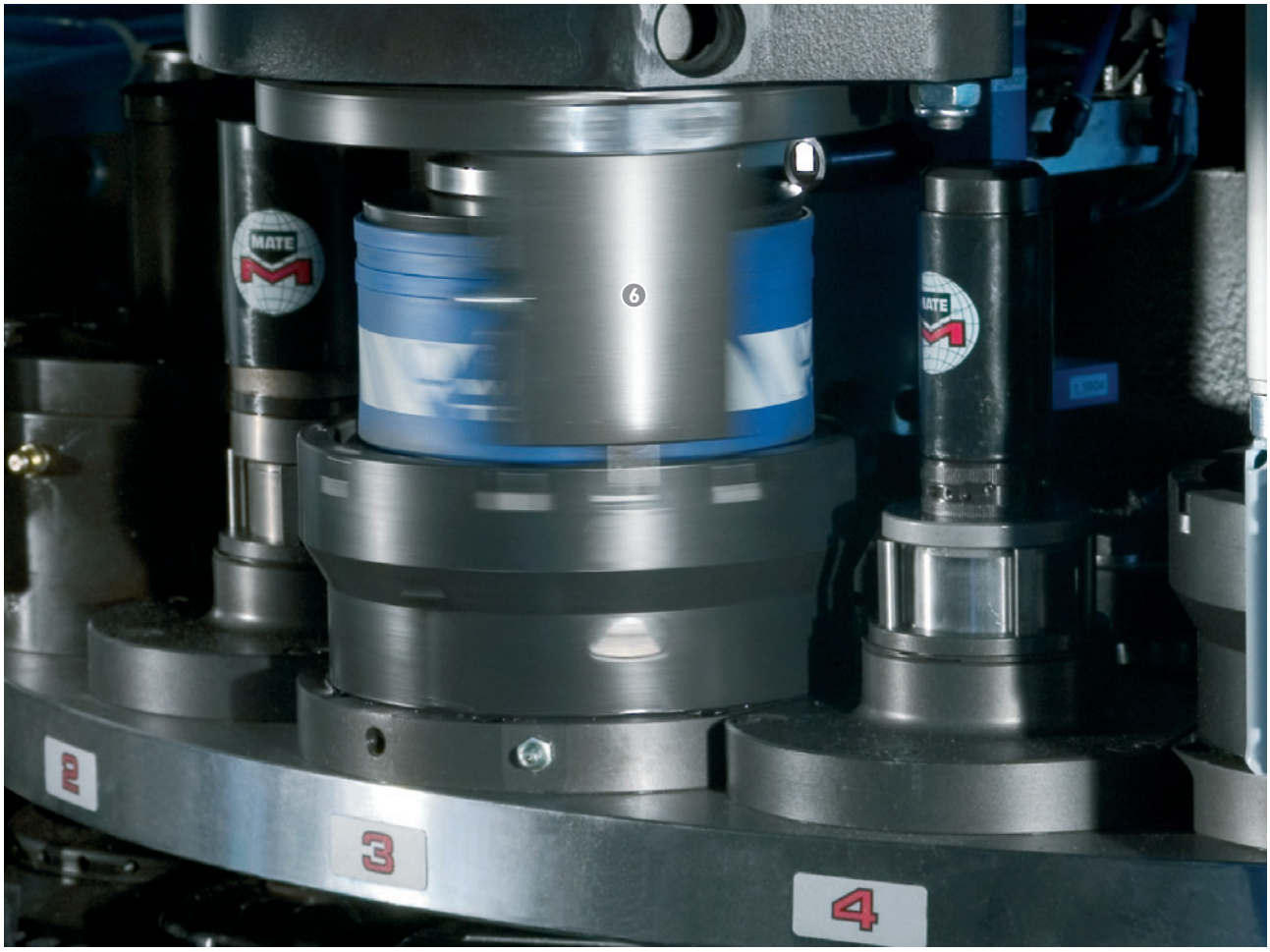
The Programmable Clamp Setting function automatically positions sheet clamps according to numerical program, minimizing clamp dead zones. When changing production from full size to small sheets, clamp settings can be made automatically without wasting operator time.



Loading large and small sheets 5

Sheets smaller than 600 mm x 300 mm are loaded manually. Loading is easy even with automation devices added to the system. Whether processing small, pre-cut sheets or full size material, sheet loading takes place with a simple push. Sheet supports allow easy positioning of heavy sheets.

Machines are equipped with brush tables, which protect sheet surface and prevent noise and vibration which would be hazardous for micro joints.

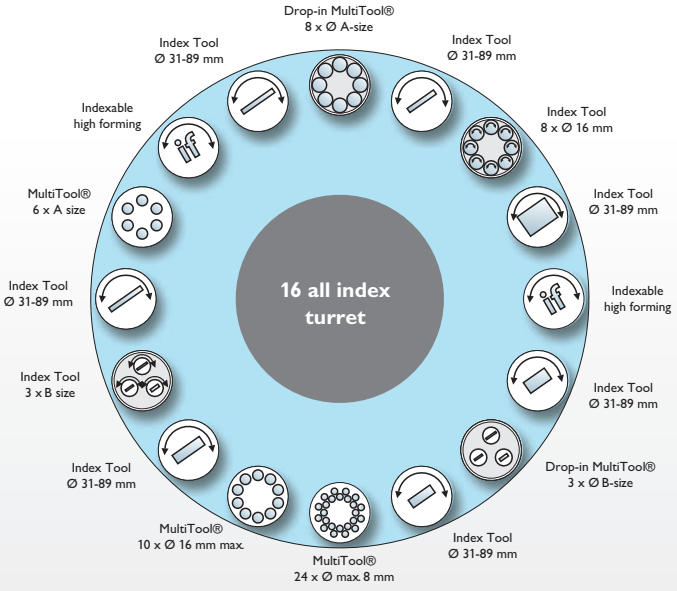


FastAuto Index 6

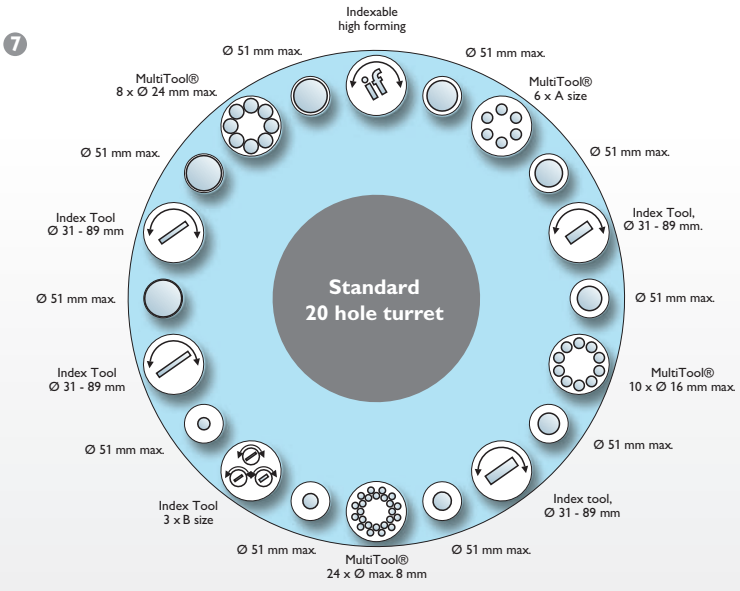
A large number of index tools facilitates set-ups and programming, shortens tool change times and increases production speed. Maximum index rotating speed is 250 rpm. The rotation mechanism of the punch and die is mechanically engaged and disengaged vertically. It enables full tonnage and punch speeds to be used in any station, with any tool size.

Large tooling capacity 7

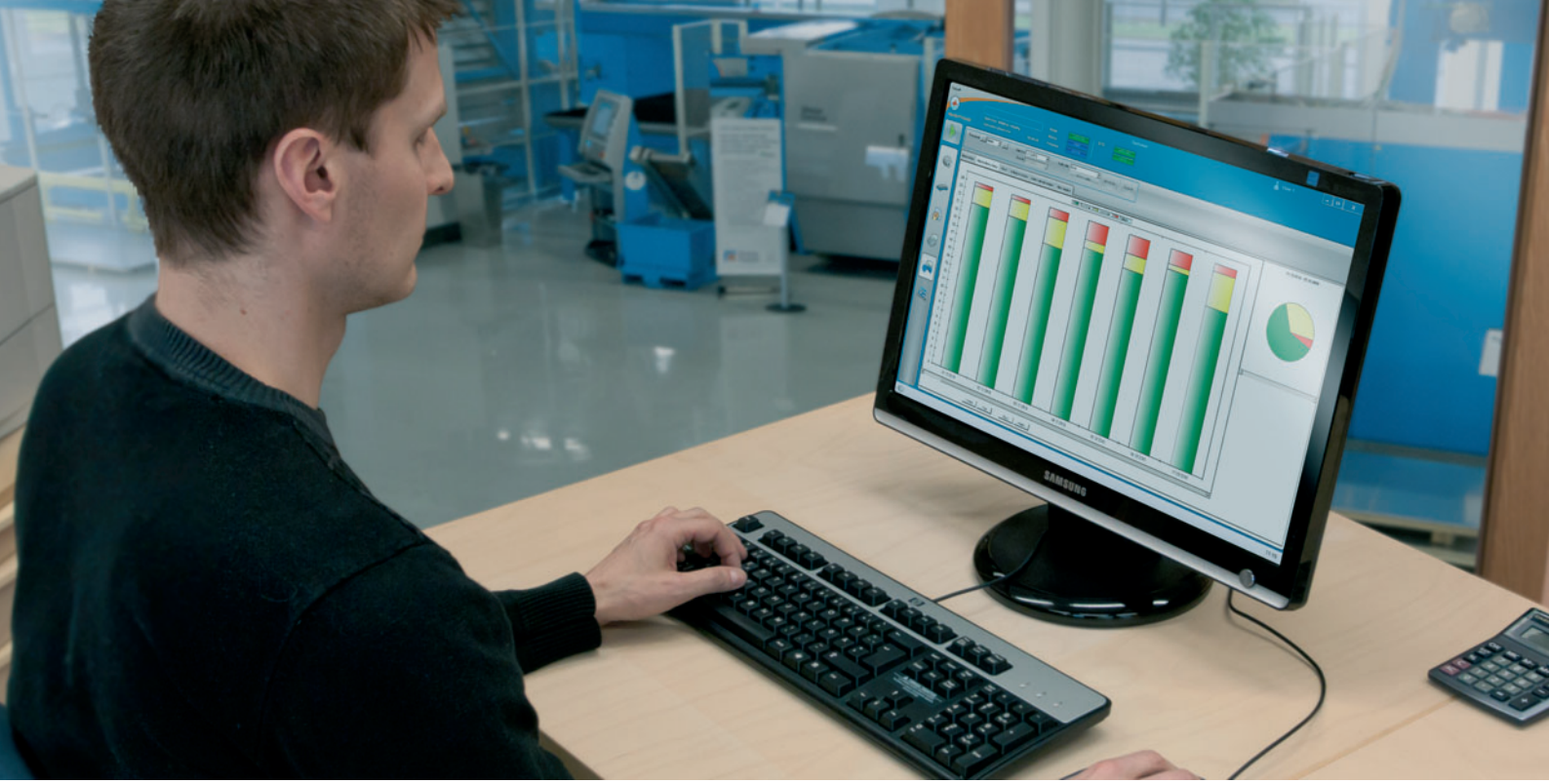
A totally re-designed turret can be chose; it can be customized and optimized for any requirement. Simultaneously, a record-breaking number of 384 tools can be available in the turret; thus unnecessary set-ups can be easily avoided. The original fully customized turret layout is also available. The maximum number of index tools has also been raised to 128.



Example of a customer specific turret layout. This one includes 69 tools, of which 18 index tools and 2 indexable high-forming station.



Example of a customer specific turret layout. This one includes 66 tools, of which 7 index tools and 1 indexable high-forming station.

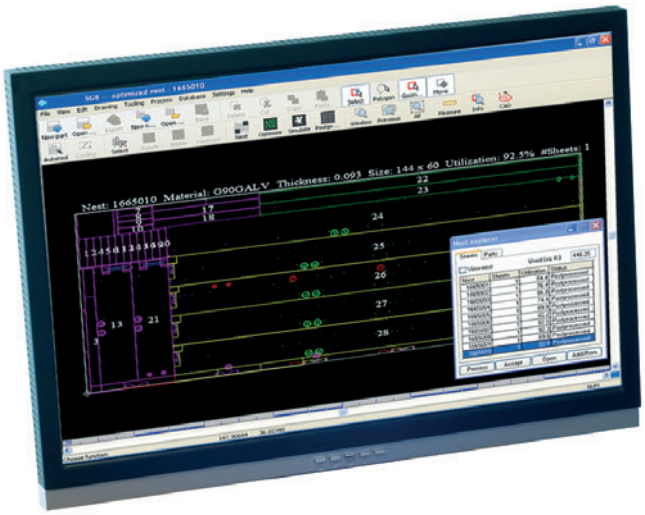


SOPHISTICATED SOFTWARE

Special attention has been paid to ease of machine setups and efficient programming. The benefits include excellent possibilities for e.g. roll forming and for other special tooling. With optional features, the software can be made compatible with standard ERP connections for importing orders and exporting reports.

NC Express™

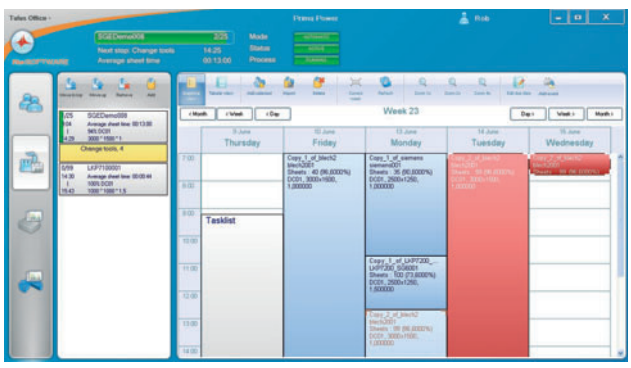
Tulus®

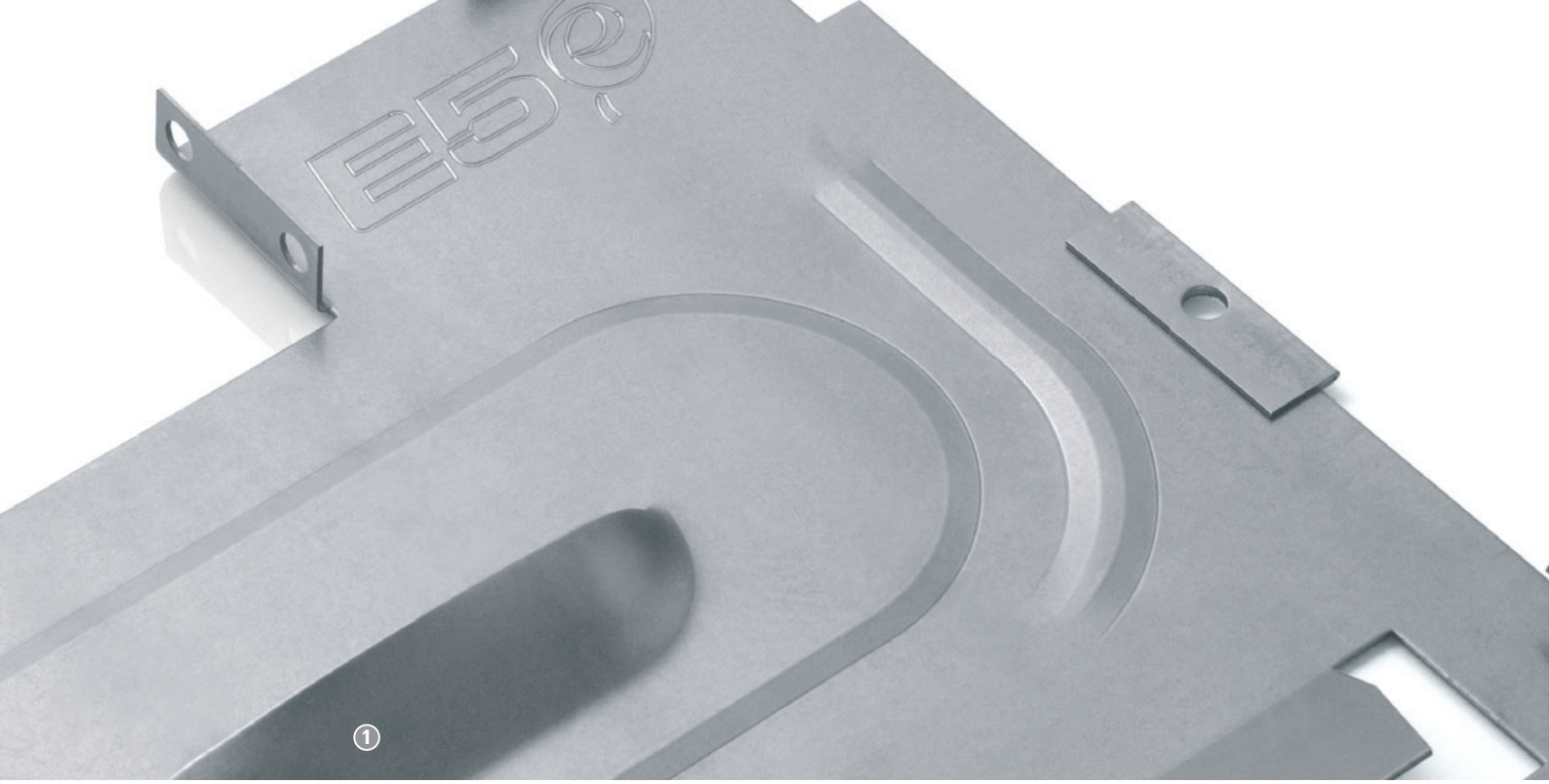


NC Express™ CNC programming system is a user friendly, integrated, and automated tool for programming the equipment. NC Express™ is for single part drafting and tooling or a fully-automated programming system for large production line.

Tulus® is management software of fabrication machines and systems. Tulus® controls machines with all essential information on machine related tasks within the same window. On arrival of new orders, Task management informs the operator of eventual needs for changes in materials, tooling, etc. Tool setting and other machine parameters can be easily set by interactive graphical interface. Additional production scheduling performance reporting and remote monitoring are available.

Above: Easy task list and tooling management with Tulus GUI.
Below: Tulus Office production follow-up and scheduling.





WIDE RANGE OF OPTIONS

There is a wide selection of optional equipment and features with which the standard machine can be customized to meet specific requirements. Most of these can also be installed later as machine upgrades.

Upforming 1

An additional forming cylinder is available. It is a servo operated ram installed in the lower machine frame. It lifts the forming die to a programmed position. The tool is retracted after forming, preventing a collision with the moving sheet. With this cylinder, versatile forms up to 16 mm (0.63") in height (incl. sheet thickness) can be made.

Fast component identification 2

There are several solutions for adding information to components to ensure reliable identification with different types of marking tools. SGe6 can also be equipped with an inkjet or a labelling device.

Extra clamp and individual movement 3

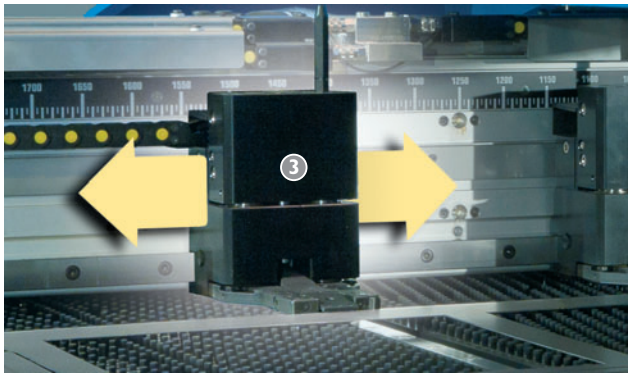
The machine can be equipped with extra clamp. Dead zones are completely eliminated with an individual clamp movement.

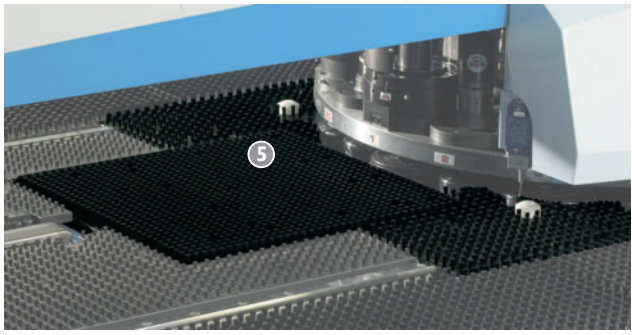
Multi-Tool® stations 4

The turret can be equipped with Multi-Tool® stations to increase the number of tools. The latest development in Multi-Tool® technology is the possibility of using drop-in style indexable Multi-Tools® on D-size index tool holders.

Lifting brush tables 5

Three brush table segments can be lifted to prevent sheet from scratching by tools which are higher than others. The function in no way complicates or slows down machine operation.





THE INTELLIGENT RIGHT ANGLE SHEAR

The Prima Power right angle shear is extremely fast in operation. Programmable blade height and automatic stroke depth adjustment combine to allow shearing speed up to 110 m/min (72.16"/s). In the right angle shear, sheet holders are programmable, allowing shearing close to forms. Blade speed is automatically selected for the maximum speed. Together with automatic shearing modes this optimizes operation speed.

The intelligent right angle shear always allows using the optimum solution for the stroke according to the part size to be made in each case, e.g.

- a single stroke for shearing a1,000 mm x 1,500 mm (39.37" x 59.06") component
- fast, multiple strokes in X direction up to maximum sheet length
- fast cut mode for shearing smaller components

The right angle shear can be used for 0.5...4 mm (0.02"...0.157") mild steel (aluminium up to 5 mm / 0.197"). For stainless steel max. thickness is 3 mm (0.12").

Programmable sheet holder

The lateral forces caused by the shearing action are compensated using pneumatic sheet holders for excellent shearing quality and high tolerances. In case there are forms or bends close to the shearing line, one or more segments of the holder can be programmed to stay in upper position so that component quality is not affected.

Automatic blade clearance setting

Blade clearance adjustment is automatic. Machine control calculates the optimum blade clearance for materials of different thickness and the adjustment unit in the right angle shear automatically sets the clearance correctly. This prolongs blade life and ensures high-quality, burr-free shearing.

Support of large work pieces

When shearing large pieces, they may occasionally be slightly bent or distorted. This possibility is eliminated with an automatic lifting mechanism integrated in the conveyor.

Part and scrap sorting

Shear Genius® can be used for processing pre-cut sheets and thus there is no shearing scrap at all. However, very often standard size sheets are used, or due to tolerances of the material supplier or eventual transport and handling damages it is advisable to trim the edges for straightness and correct dimensions. This scrap and eventual scrap between work pieces are automatically sorted onto a scrap pallet by a conveyor system included as standard. As work pieces are automatically exited from the machine for sorting or stacking, there is no need for the operator to separate scrap from work pieces manually.

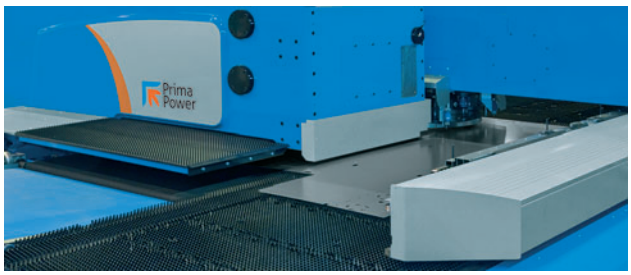
Long blade life

Shearing blades are of hardened steel and precision ground. Mechanical wear is minimal because of accurate blade support and automatic clearance adjustment, yet due to the heavy-duty operation wear necessarily is caused in the course of time. The upper blade has four and the lower two cutting edges, and by turning the blade a new, sharp edge is ready for use. Once there are no sharp edges left, the blades can be sent for grinding and re-used – a true Green Means® solution if anything.

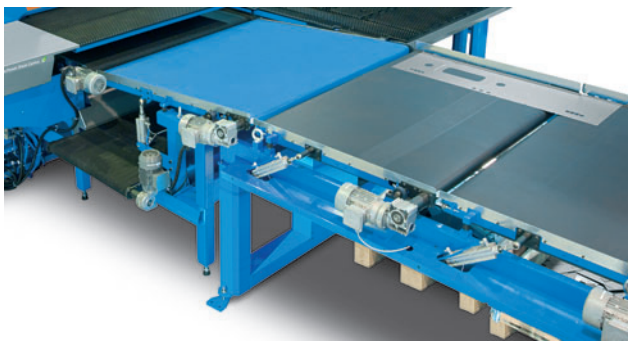
Outstanding accuracy

As the right angle shear is an integral part of the cell and not a separate machine, and since the sheet is firmly held throughout the fabrication process, high component accuracy is achieved.

Shear Genius® accuracy reaches new levels through a new actuation mechanism for X and Y movement of the coordinate table. All machines are carefully tested before delivery.



Programmable sheet holders and automatic clearance setting contribute to high component quality.



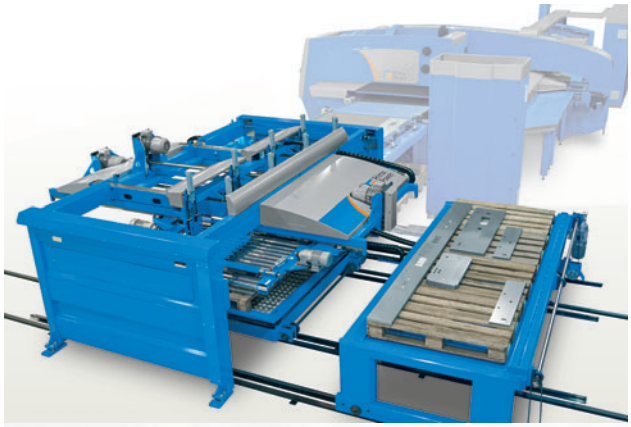
Part and trim sorting as standard.
Optional part sorting to 1 - 6 addresses.

FLEXIBLE MATERIAL HANDLING SOLUTIONS

The Shear Genius® construction is compatible with the whole Prima Power range of optional modular material handling equipment for sorting and stacking. Thus Shear Genius® solutions can automate

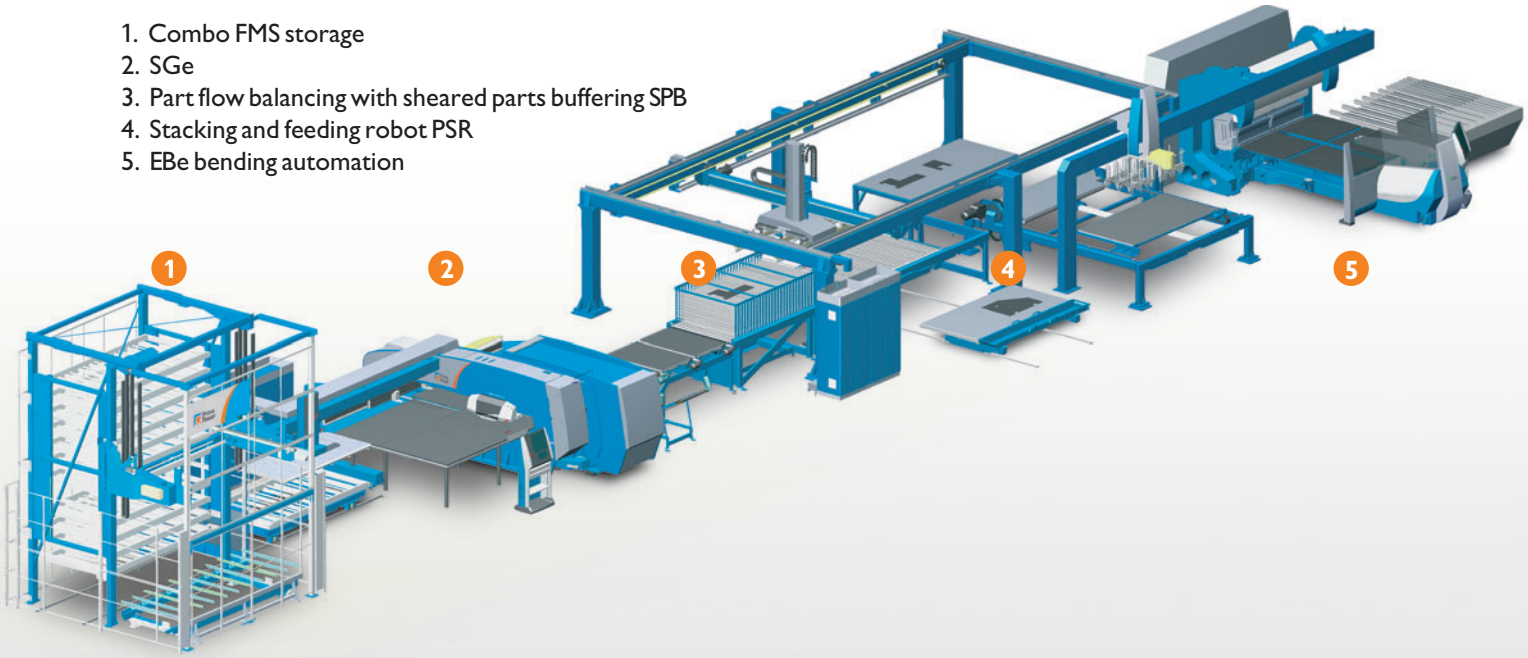
- material storage with automatic feed
- loading with possibility of material change during machine operation
- component exit
- scrap removal (punching and shearing)
- sorting and stacking of components

Shear Genius® technology is optimal for integration with subsequent bending by an automatic Prima Power bending cell. Prima Power PSBB processes blank sheets into bent components on a compact line, while Night Train FMS® provides factory-wide solutions for fully automatic fabrication.

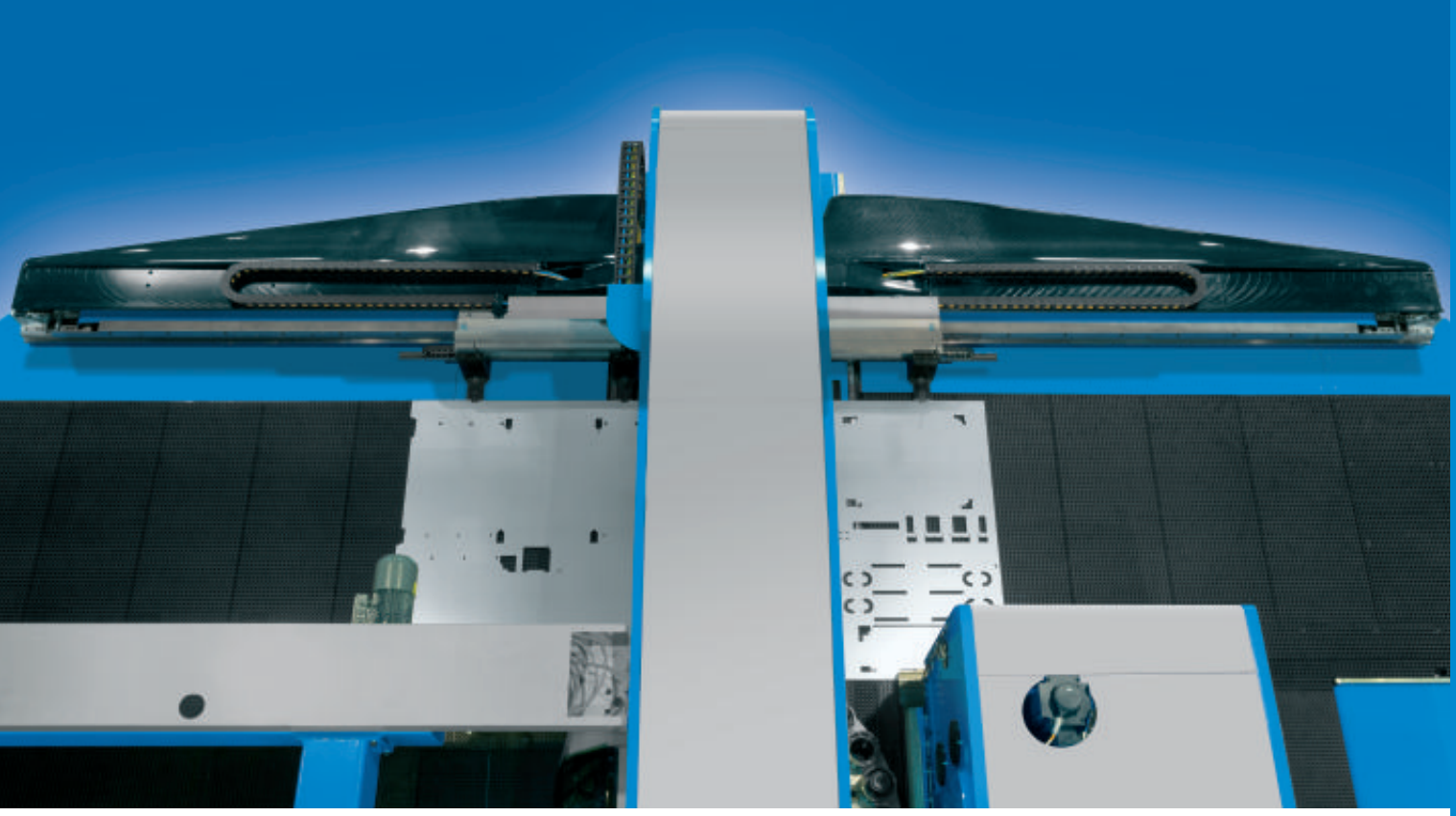


Prima Power PSBB

1. Combo FMS storage
2. SGe
3. Part flow balancing with sheared parts buffering SPB
4. Stacking and feeding robot PSR
5. EBe bending automation



Night Train FMS®



Prima Power

The Bend
The Combi
The Laser
The Punch
The System
The Software

Shear Brilliance
– outstanding productivity

Shear Brilliance – outstanding productivity

The integrated punching-shearing concept has been championed by Prima Power since 1987 and more than 2,000 integrated punching-shearing cells have been installed all over the world. The inherent benefits of the process have translated into superior manufacturing economy in most varied applications where Shear Genius® and Shear Brilliance are used as independent cells or as key units of larger manufacturing systems.

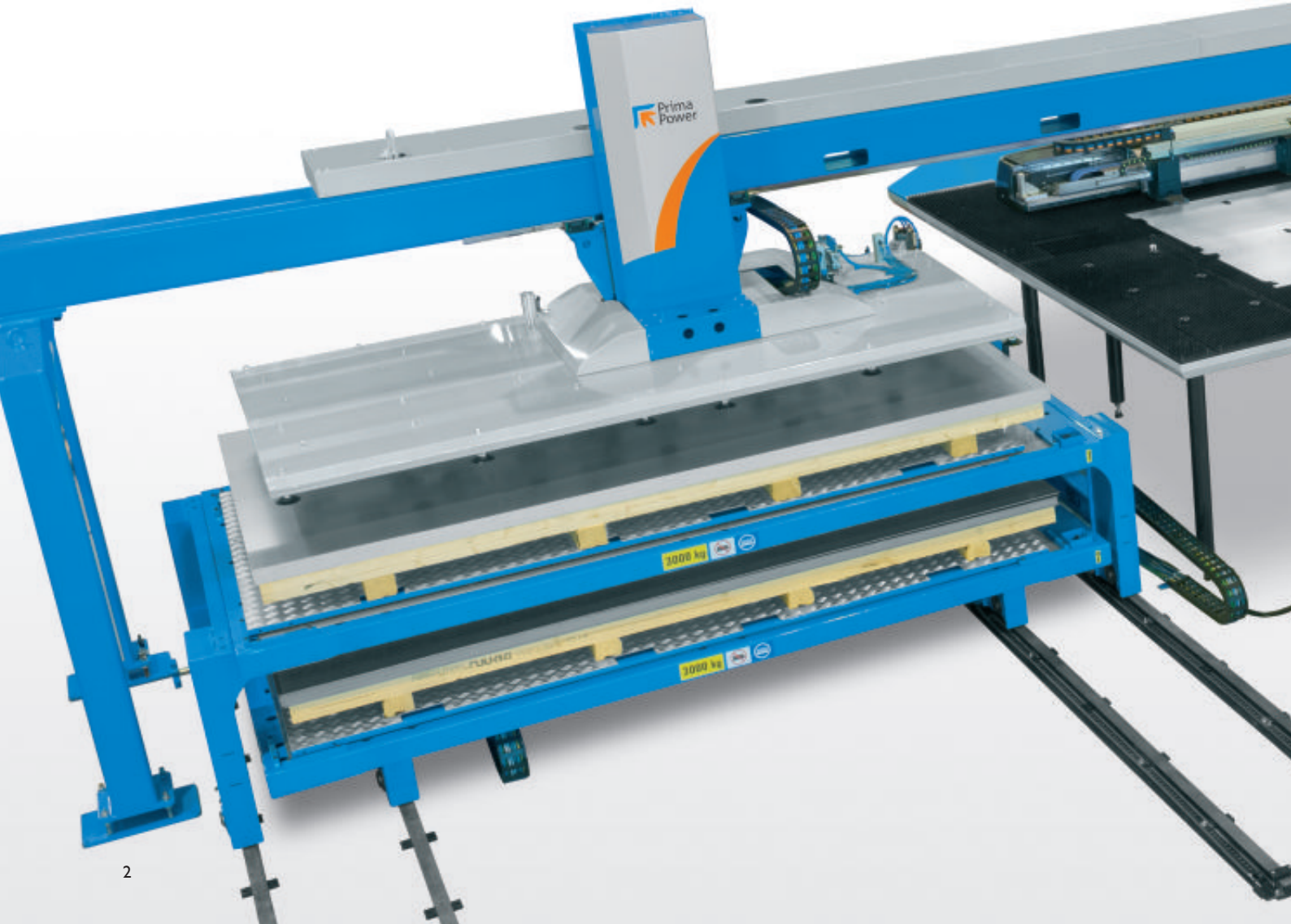
Process benefits:

1. Automated flexible fabrication
   – less manual labour, higher throughput
2. Savings in raw material
   – no skeletons, less punching scrap
3. Higher nesting utilization
   – more parts in one sheet
4. Better quality
   – no nibble marks in part edges
5. Fast, accurate and reliable shearing and part exit
   – less labour, better part quality

The new Shear Brilliance is based on the very latest in composite materials, servo-electric technology and linear drives to achieve truly impressive performance values which translate into a new level of productivity in versatile, flexible fabrication.

Shear Brilliance – a new generation of advanced fabrication technology

The vast majority of all sheet metal components fabricated are rectangular, so a highly economical method to produce them is to perform first punching and then shear the components loose in the same automatic process with an integrated right angle shear. Also, parts with three or two straight edges are perfect for fabrication with a right angle shear.



Shear Brilliance highlights:

1. Loading in masked time
   – more production time available
2. Hit speeds up to 1,300 hpm
   – fastest hit rate available for fabricating full format sheets
3. 3,100 mm common working area
   – punching and shearing without repositioning
4. More force (35 tons)
   – Complicated contours with one hit
5. High tooling capacity
   – huge savings in set-up times, flexibility in production
6. Supreme positioning speed, accuracy and precision
   – Time savings and improved quality during processing

The new, fully servo-electric Shear Brilliance features linear drive technology in sheet positioning and raises manufacturing speed and productivity up to a new level compared to current SGe. With long travel (X = 4,070 mm, Y = 1,640 mm) of the coordinate table full working area can be used without repositioning, accurately and at great speed. The sheets are pre-positioned during machine operation, which reduces loading time dramatically.

Other inherent benefits of modern servo-electric technology are operation economy due to low power consumption and low maintenance requirement, as well as excellent accuracy in all the versatile capabilities. Prima Power modularity allows the fast high-precision manufacturing of components that require also forming – even bending – tapping and marking in a single, flexible cell and a fully automatic process. Finally, by its very nature, the integrated punching-shearing concept can bring savings 10 % to 20 % in raw material consumption. Even more saving can be achieved using optional cut-to-length line.

THE COMBI BY PRIMA POWER
1+1 > 2
ONE PLUS ONE IS MORE THAN TWO

Some of the illustrations show equipment without safety devices and some with optional equipment

Outstanding productivity – how?

1. In loading the production time is maximized due to loading in hidden time.

2. Fast and extremely accurate positioning with linear drives. Positioning is very fast, which again saves production time. In the same process using linear drives you gain more precision, which is always a valuable quality factor.

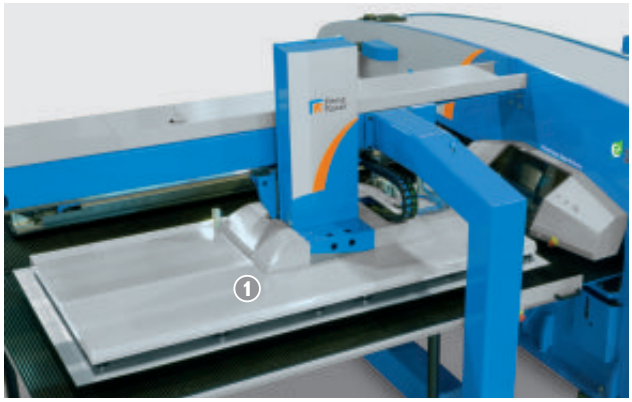
3. A lightweight and rigid composite construction allows coordinate table length of 4,070 mm and this, in turn, 3,100 mm punching-shearing without repositioning. The lightness of the coordinate table increases speed.

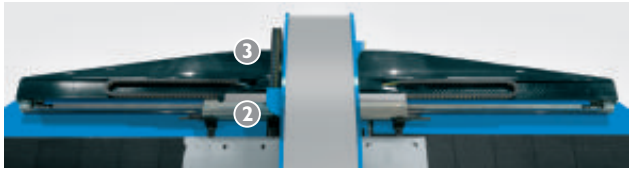
4. 1,300 hpm is the fastest full format hit rate in the market. This adds again productivity.

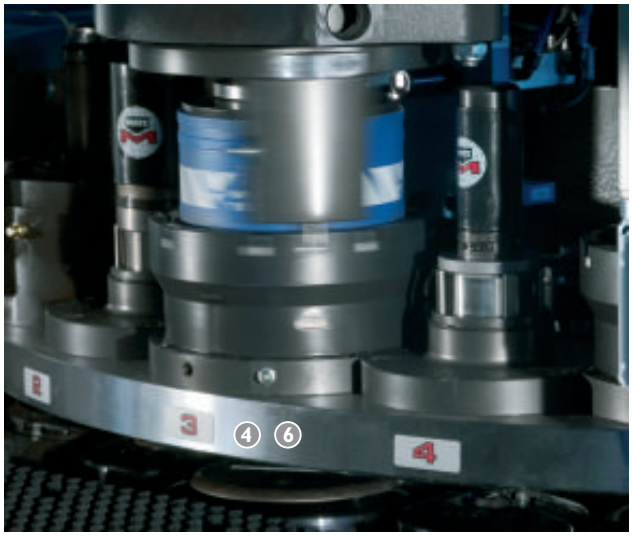
5. Prima Power in known for its flexible turret design. The SBe offers a huge tooling capacity in a 24 or 30 station turret which ensures minimum set-up times and maximum tool quantity in single set-up. Tool sizes can be chosen by the customer, which adds flexibility required in modern production.

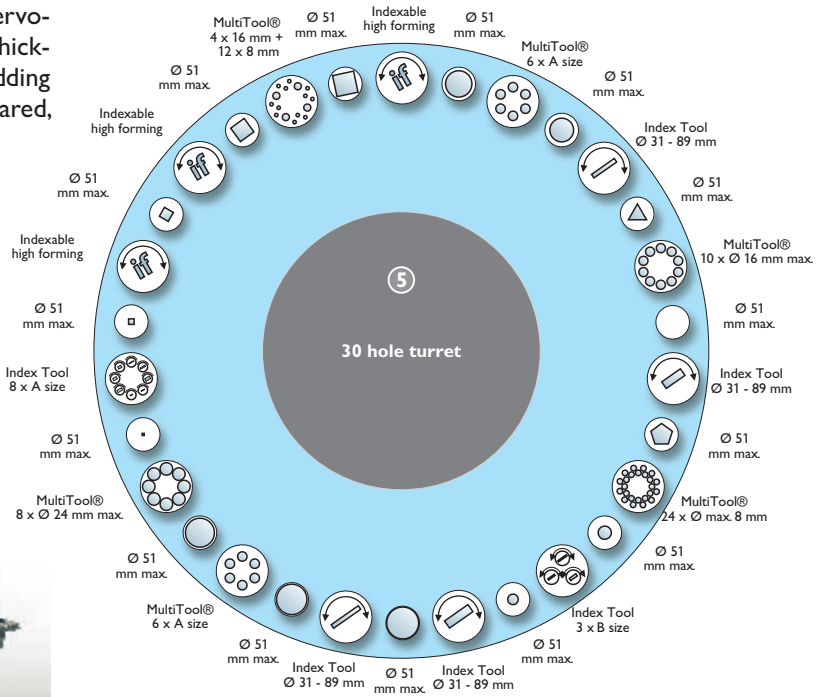
6. Up to 35 tons of servo-electric ram force allows very complicated contours, using one hit instead of two. As fewer hits are needed production is faster. Despite the ram force speed has not been compromised.

7. Automatic clearance setting of the intelligent servo-electric right angle makes changing from one material thickness to another automatic and fast, saving time and adding productivity. A wide range of thicknesses can be sheared, up to 5 mm aluminium.





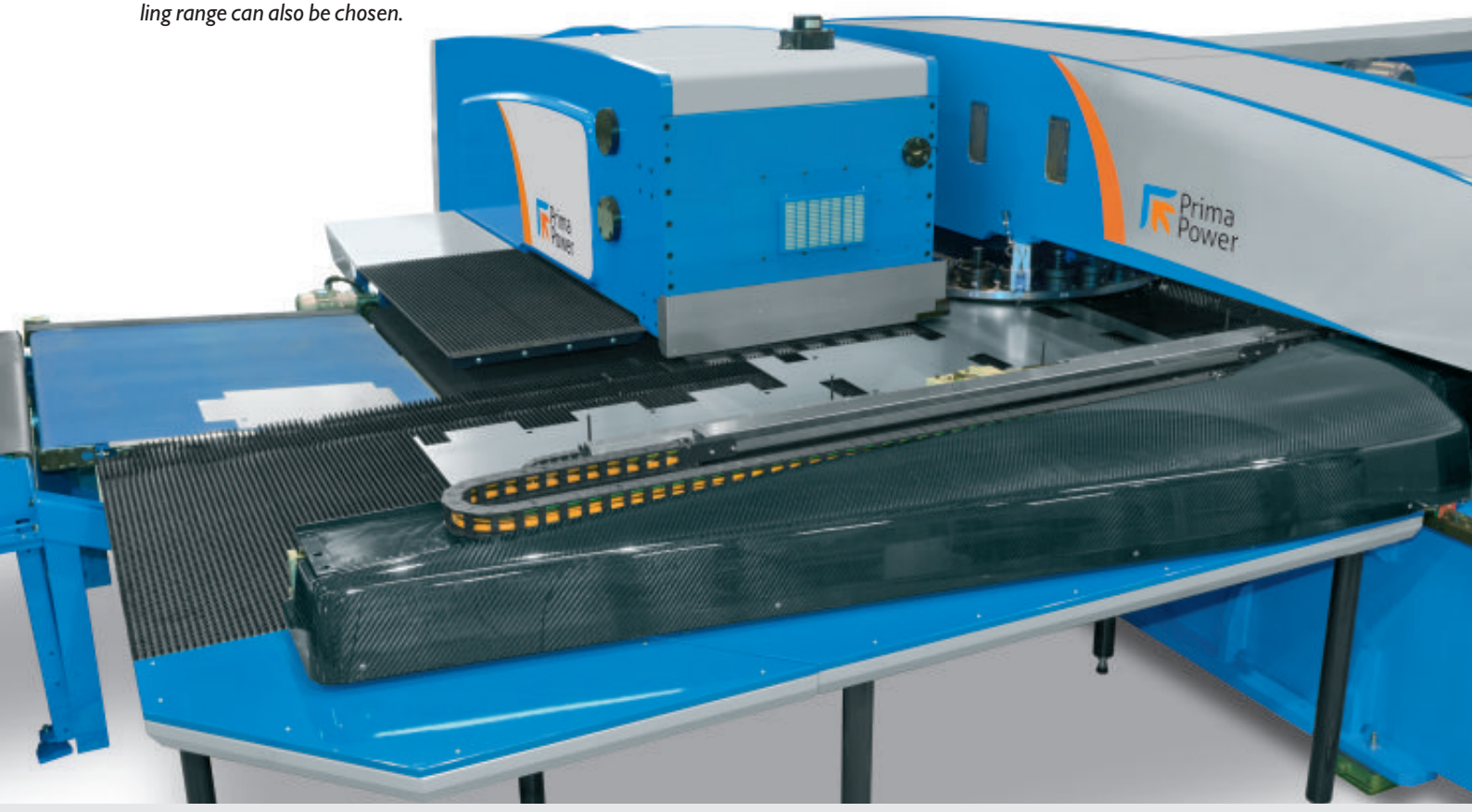




Either a 24 or 30 station Shear Brilliance turret can be chosen. The turret is always customer specific.

The illustration shows a 30 station turret mounted with 103 tools, of which 18 are indexable.

The Shear Brilliance concept allows supreme versatility in tooling, with the possibility of having up to 576 tools simultaneously in turret. Now the recently introduced high-quality Prima Power tooling range can also be chosen.



Main technical data

- Servo-electric Shear Brilliance
- Sheet size of raw material 3,100 mm x 1,565 mm
- X-traverse 4,070 mm, Y-traverse 1,640 mm
- Positioning speed max. 210 m/min
- Brush tables, max. load 250 kg
- Servo-electric punching and shearing cell
- 27 or 35 ton ram force
- Turret up to 576 tools or 124 index tools in turret with Multi-Tools®
- Material thickness, mm, max.

	Al	MS	SS
punching	8	8	8
shearing	5	4	3

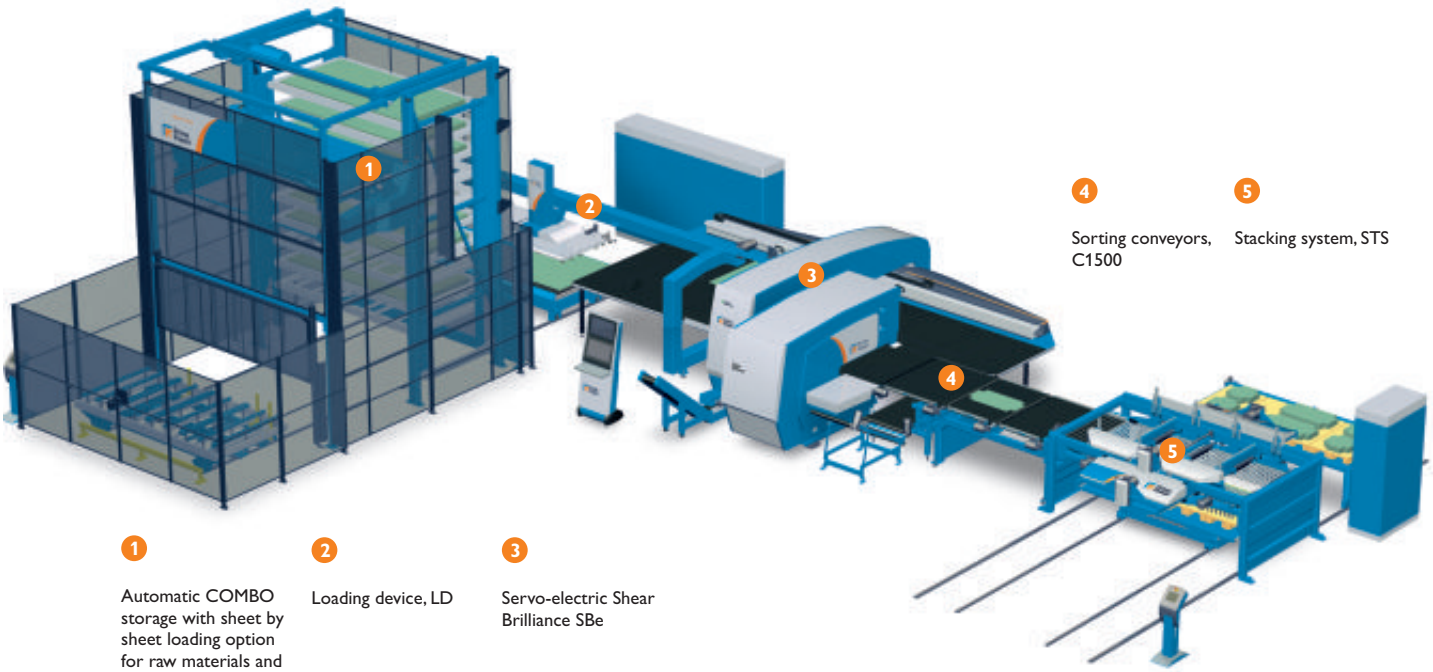
- Max. hit speed per minute
  1 mm: 1,300
  25 mm: 580
  250 mm: 235

Flexible, modular automation

Prima Power flexible and modular range of automation ensures optimal solutions to utilize the massive production capacity provided By Shear Brilliance. Automatic material handling and storage capacity storages enables long unmanned operating times for lower system operation cost.

Shear Brilliance can be integrated with other machine cells e.g. an automatic bending cell, to become heart of a Flexible Manufacturing system PSBB.

A COMBO storage allows long automatic production runs, especially with an STS stacking system integrated with the cell. And automation is not inflexible: e.g. with the sheet by sheet functionality of the COMBO storage material can be changed fast. Adding stacking system STS with connection to COMBO storage gives extensive unmanned production time for optimal operating cost.



1 Automatic COMBO storage with sheet by sheet loading option for raw materials and stacked parts

2 Loading device, LD

3 Servo-electric Shear Brilliance SBe

4 Sorting conveyors, C1500

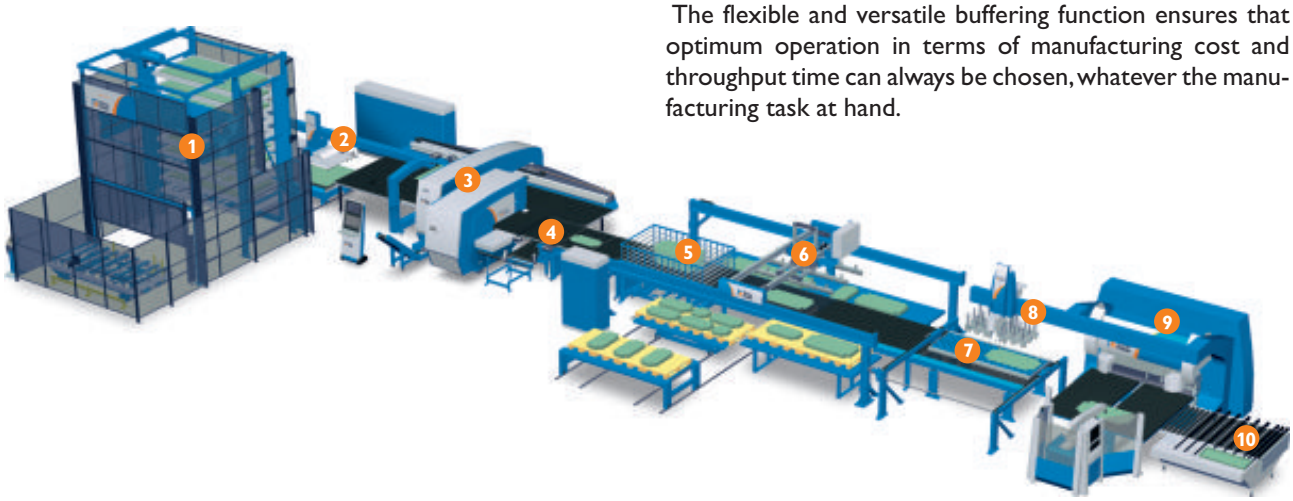
5 Stacking system, STS

PSBB – automatic, flexible material flow and buffering

Shear Brilliance can be integrated with other machine cells, e.g. an automatic bending cell which makes it the heart of the PSBB Flexible Manufacturing System.

Depending on configuration of PSBB line, material flow can be arranged in flexible ways to transfer parts direct to automatic bending, to balance the different time requirements of bending and punching / shearing, to exit material from the system and to bring new material into it.

The flexible and versatile buffering function ensures that optimum operation in terms of manufacturing cost and throughput time can always be chosen, whatever the manufacturing task at hand.



1 Automatic COMBO FMS® with sheet by sheet loading option for raw materials

2 Loading device, LD

3 Servo-electric Shear Brilliance SBe

4 Sorting conveyors, C 1500

5 Sheared part buffer, SPB

6 Picking & stacking robot, PSR

7 Bend part turning device, BTD

8 Loading device of EBe

9 Automatic, servo-electric panel bender, EBe

10 Unloading system with tilting unloading table, TUT

With Tulus® software the process is at your fingertips

The Tulus® software family developed by Prima Power is a powerful tool for managing the entire PSBB process. It consists of several modules.

Tulus® Cell

Tulus® Cell is a machine user interface which controls machine operation, tools, machining order and sorting of the finished parts.

Tulus® stacking & sorting management

Tulus® calculates automatically the part positions on the pallets and in the boxes and the times at which the parts must be removed from the stacking areas manually or, in the storage connection, automatically. Cassette changes become automatic.

Tulus® Bend

The parts that come to the bending center are managed in Tulus® Bending view. With Tulus® you can control the bending of the parts as well as part stacking with robot (and manage stacking area of PSR robot and external production).

There are three different modes for the Bending task list:

- Normal mode: parts are bent according to the sequence in the task list.

- Search mode: parts are bent according to availability. Parts coming from SGe/SBe are handled first and parts from the cassette are bent from topmost stacks.

- Direct mode: parts coming from SGe/SBe are sent directly to bending. If there is another work active in the bending cell, it is interrupted until the direct mode part has been bent.

Tulus® Office

Tulus Office is a scalable software package that offers a variety of options connecting to machinery at the shop floor. Office software is also available to be installed on an offline Windows PC. Users can access multiple machines within one software package.

Tulus® Power Processing

Tulus® Power Processing is a Manufacturing Execution Systems (MES) which is easy to connect with other information systems such as ERP. With Power Processing you can control the whole production process, from ordering, programming and machine loading to all the way to the finished product and reporting.

Much more than a control desk

With the twin-screen solution the operator can not only control operation but has access to a wealth of information of the cell and the entire manufacturing line (camera monitoring, task lists, work queue, service monitoring etc.). All can be available to the operators, with interaction possibilities, in a single spot by the machine – not just in the production managers office as it used to be. This helps fully utilize the vast productivity potential of the system.

Tulus® Power Processing makes the production process transparent and easier to manage. There is always data of the production status and in which work stage each component is.

Prima Power

The Laser | 2D line

Next level laser cutting machines

Contents

Next level.
Next to you.

Today's volatile market demands that companies be competitive, accurate and reactive. Prima Power products continue to evolve, bringing efficiency to a whole new level.
More productive machines, new automation solutions, and easy-to-use option suites are designed to meet the customer's real needs. To provide the best Prima Power technology, our team of experts will always be available to listen, assist and advise.

What can be found in this brochure

Innovative laser cutting machines suited for specialized and multi-purpose productions.

Suites of options designed to achieve the best performances depending on the customer's needs.

Wide range of automation solutions to manage the whole production cycle.

Choosing an innovation leader

Prima Power is a leading specialist in machines and systems for sheet metal working. **Our offering in this field is one of the widest and covers all applications**: laser processing, punching, shearing, bending and automation.
The Group employs over 1,500 people and has manufacturing sites in Italy, Finland, China and the US, as well as a worldwide commercial and after-sales presence.

EXPERIENCE
Almost 40 years of experience and more than 12,000 installed machines.

MODULARITY
Our machines can also be combined with our automation modules to create a complete system for the whole working process.

INNOVATION
An expert R&D team committed to research the most competitive technology for our customers.

GREEN MEANS
Sustainability and social responsibility are characteristics of modern companies and add to competitiveness.

Next to you. Beyond slogans

Committing our efforts to meet our customers' needs.

Designing, developing and customizing products with our customers' success in mind.

Creating long-term and valuable collaboration supporting customers across product life cycle.

Using modern online communication technology to be with our customers, every time they need us.

Deleting distances, investing in the opening of new subsidiaries or sales and service centres to be where our customers are.

Prima Power product range

Thanks to the modularity of our products, we are able to offer manufacturing solutions ranging from single stand-alone machines up to the complete system for the management of work phases, flow of information and material handling.
The integration with other technologies of sheet metal processing included in our product range, allows us to offer our customers the most complete production solutions possible.

THE BEND
Wide range of solutions for bending and automation, such as bending, paneling and bending centres.

THE COMBI
Integrated solutions for punching & shearing and for punching & laser cutting.

THE LASER
Laser machines and systems for 2D and 3D cutting, welding and drilling.

THE PUNCH
State-of-the art, versatile solutions for servo-electric punching.

THE SYSTEM
Full and modular range of solutions for the management of the whole working process.

THE SOFTWARE
Prima Power software solutions to maximize throughput.

green means

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.

What does Green mean?

Green means a win-win for you and sustainable development.

Sustainability adds to manufacturing efficiency and productivity.

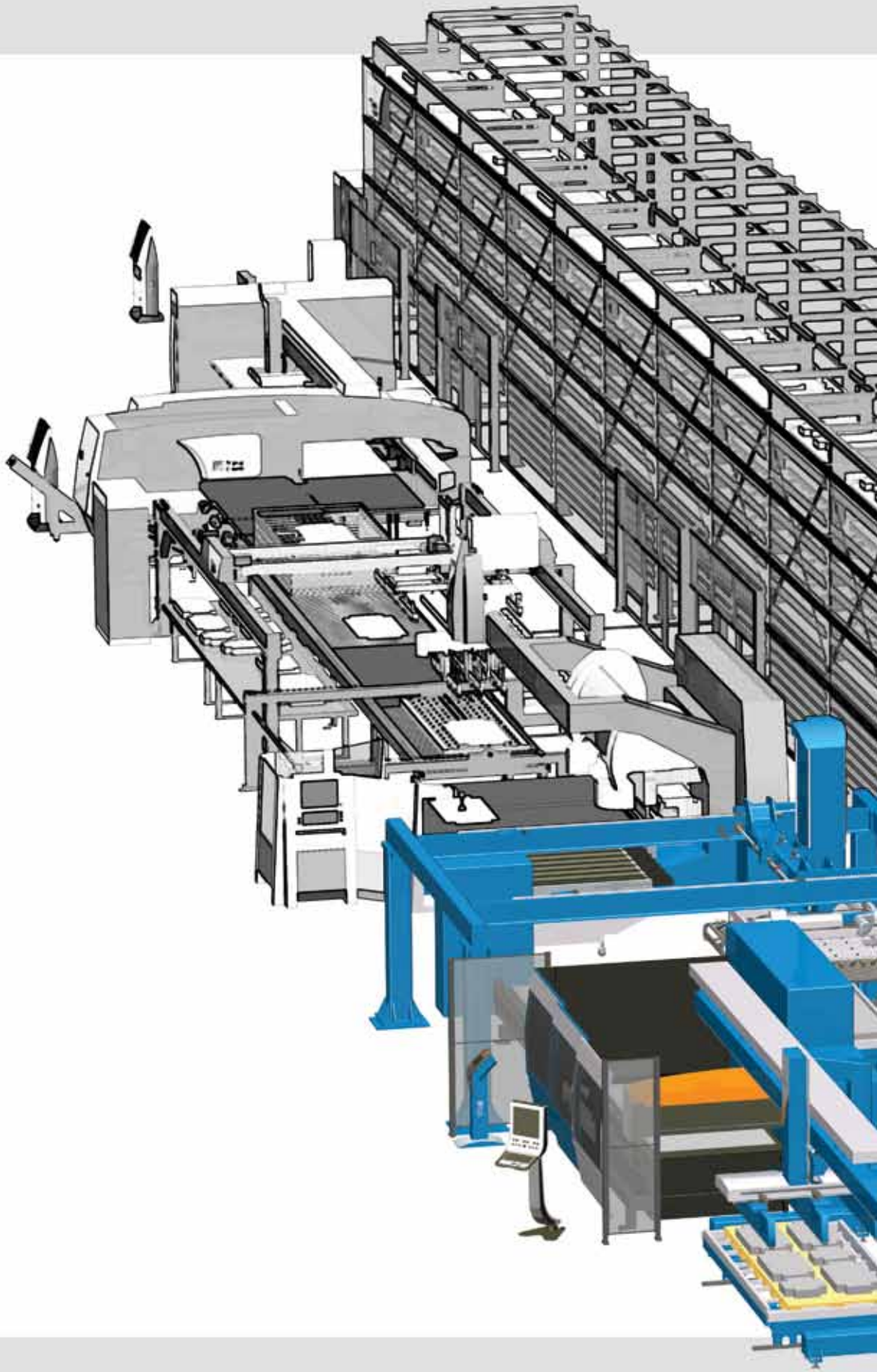
Your customers, your employees and the community you operate in demand it more and more.

Sustainability & social responsibility are characteristics of a modern company and add to competitiveness.

They make a difference between the best and the rest. And you make better sheet metal components at lower cost.



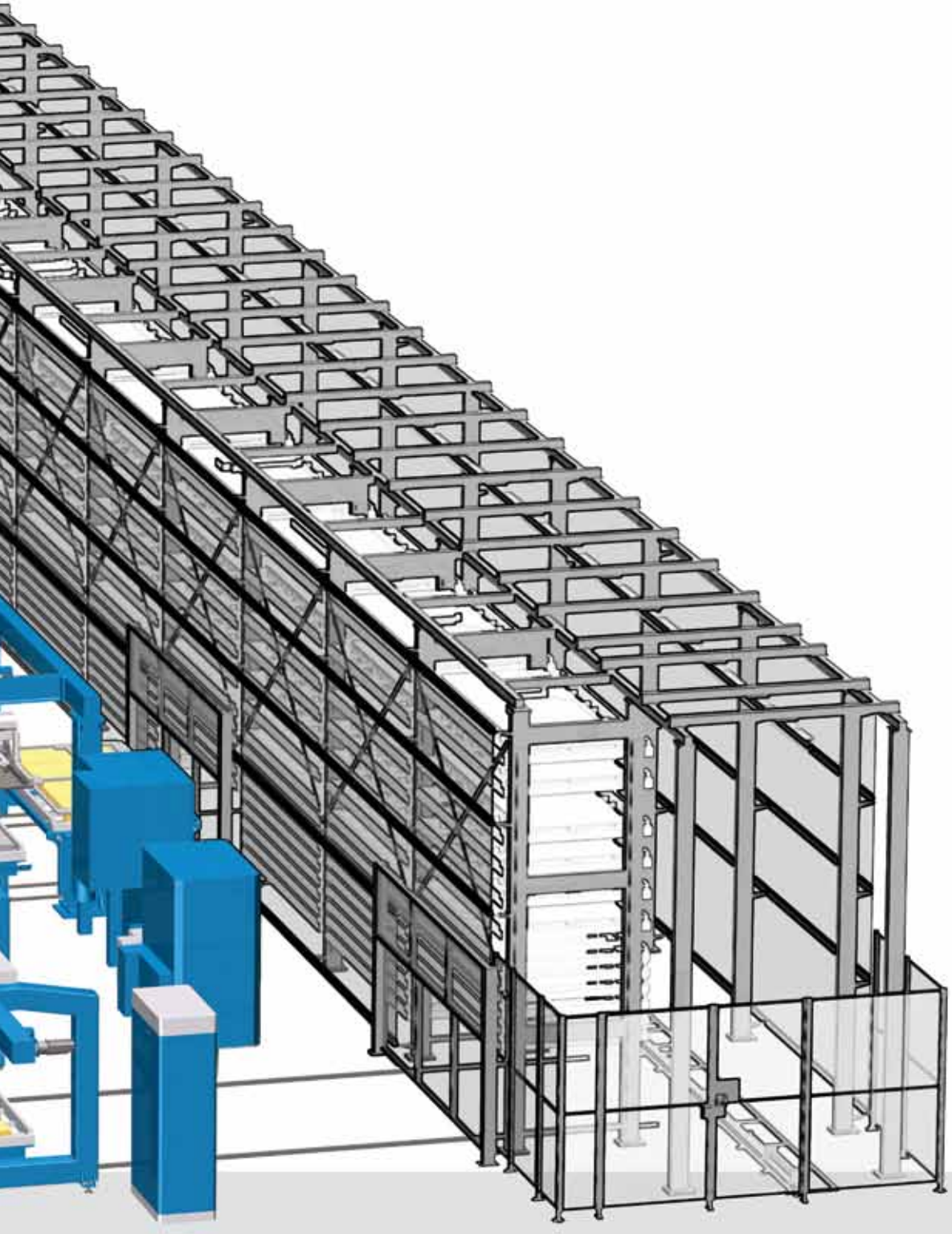




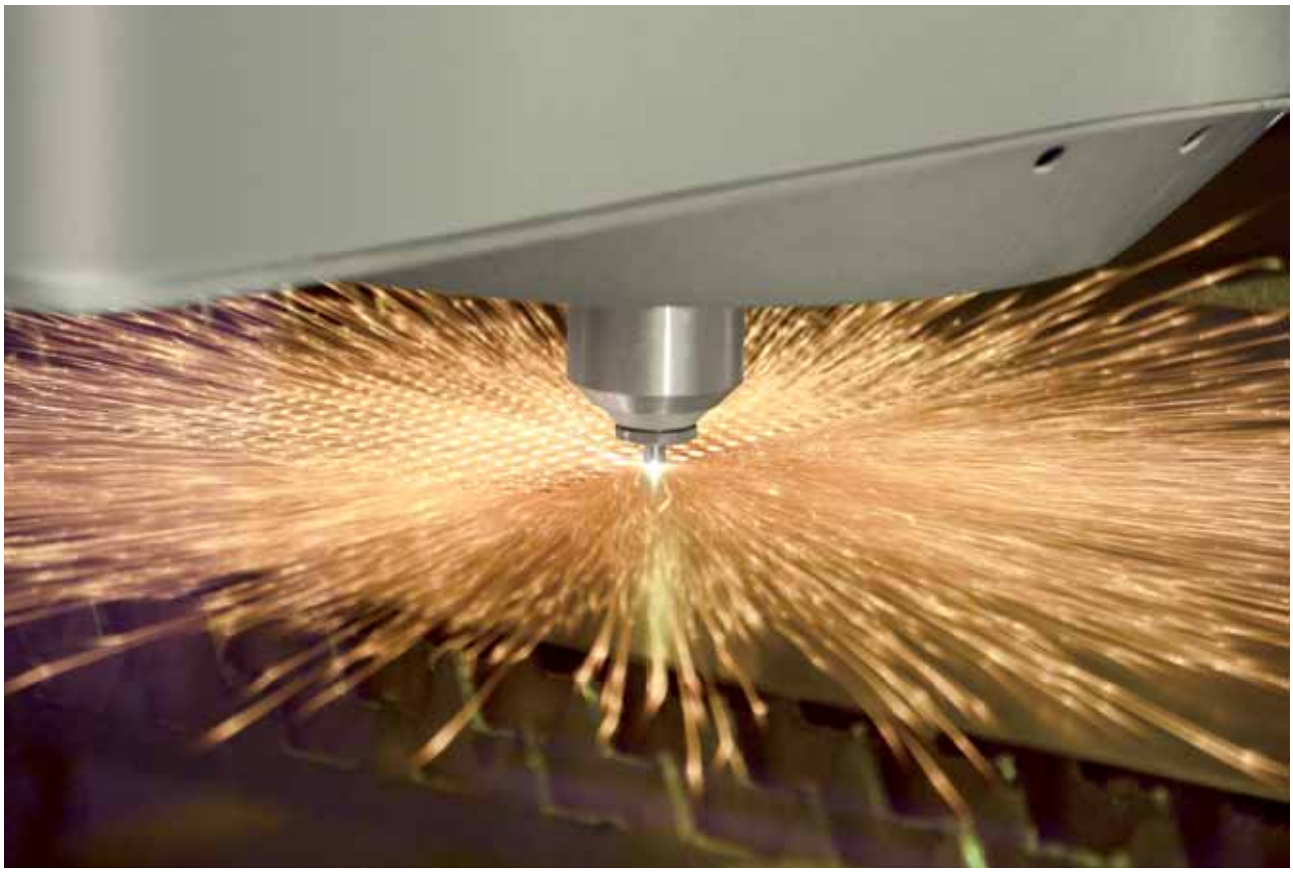
Think system

FROM STAND-ALONE MACHINE TO THE SYSTEM FOR THE WHOLE WORKING PROCESS.

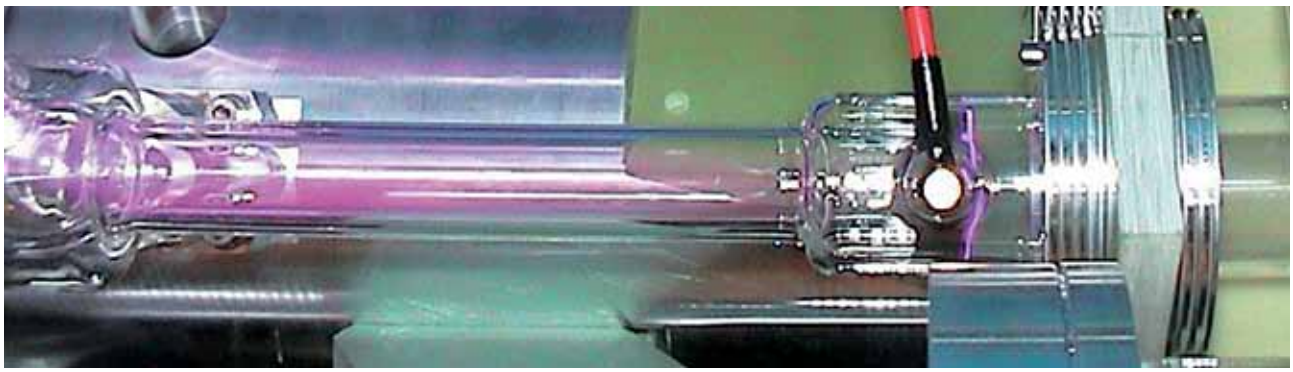
Thanks to the experience with different sheet metal processing technologies, Prima Power is the right choice. Even for the most complex productions, we can offer the most complete solutions possible: integrating top-quality machines leads to top-quality production system.



Laser cutting.
The most flexible tool ever

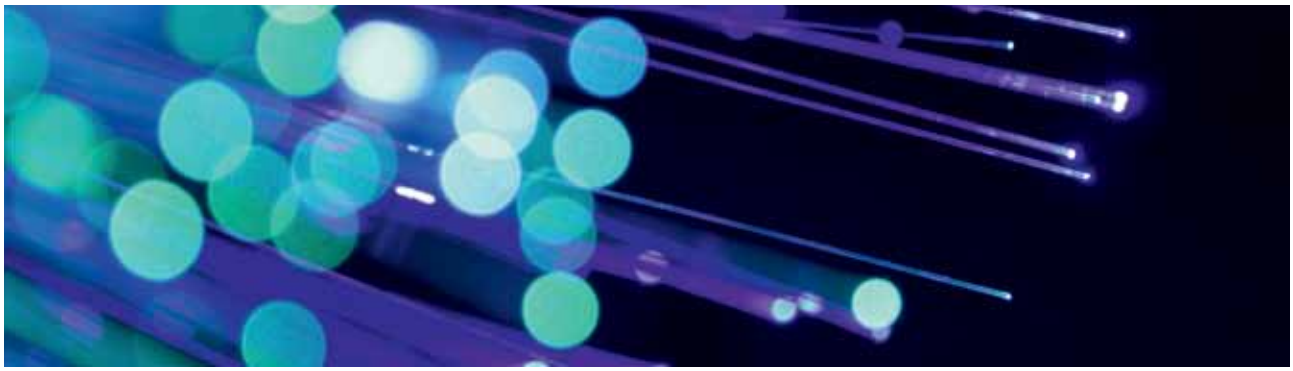


Laser cutting is an amazingly flexible technology. A wide variety of materials and thicknesses can be processed, with no limit to the shape you can obtain. Its programming is so fast, that any change can be applied in any phase of your production with virtually no extra costs and time. Its precision is the highest, the quality of the cut edge is excellent and there is no part distortion.
The best application for laser technology is the processing of metallic materials (steel, stainless steel, aluminium, copper and brass) with a thickness from 0.8 mm to 25 mm. Our laser product portfolio is extensive and includes 2D and 3D machines for a broad range of applications in cutting, welding and drilling.
Prima Power laser sources are based on both CO_2 and fiber technology and are developed and produced in-house or are the result of a strict collaboration with the most important manufacturers in the field: in this way we can give our customers the most suitable solution for each application.



CO_2 LASER

CO_2 laser cutting is the most established technology in the field: the knowledge is widespread, the initial investment lower and it is suitable for any kind of production needs. Prima Power produces a Fast Axial Flow CO_2 laser that use a gas mixture to produce beam characteristics that allow a wide range of industrial material processing applications.The laser beam generated by the source is lead to the cutting head through high-reflective mirrors.The main benefit of this technology is that **it can be applied with high quality results to the whole spectrum of processable thicknesses (0.8 to 25 mm)**.This generator adheres to the highest standards for quality of surface roughness and perpendicularity tolerance.



FIBER LASER

In fiber lasers the active gain medium is an optical fiber doped with rare-earth elements such as erbium, ytterbium, thulium, etc. The laser light is transferred via a passive fiber cable to the cutting head: this means no laser gases (like He, CO_2, N_2) and low maintenance requirements. **It's particularly productive for medium-low thickness material and it processes also non-ferrous materials with high quality results.** Another major advantage of this technology is its overall efficiency, in terms of energy savings (less energy consumption compared with CO_2 lasers) and cutting speed.

Innovation has a name: Prima Power

We have always believed in this tool, and we were one of the first manufacturers to develop its earliest industrial applications almost forty years ago.

Our company has grown with the laser and has contributed to its evolution into an innovative but reliable and productive tool, utilized in almost any industrial sector.

An example of Prima Power products excellence is the Olympic torch used in 2012 London games which was manufactured with Prima Power machines by one of our customers.

The Laser | 2D line

Platino Fiber

Tailored on your application. Profitable for a production mix including all materials and thicknesses.

Fiber 2-6 kW | 1.5x3 m | Tube cutting

FLEX PROD

Laser Genius

The talent to simplify your work and improve your profit. Highly profitable for a production mix more oriented towards thin-medium gauges.

Fiber 2-6 kW | 1.5x3 m 2x4 m | Linear drive

FLEX PROD

Syncrono

The laser speed. The fastest machine for thin sheets only.

Fiber 2 kW | 1.5x3 m | Linear drive on local axes

PROD

Thin sheets

Platino

The laser for everyone. Flexibility and high quality in all thicknesses.

CO_2 | CO_2 2.5-5 kW | 1.5x3 m 2x4 m | Tube cutting

FLEX PROD

Zaphiro

The laser quality. High productivity, superior quality and maximum accuracy in all thicknesses.

CO_2 | CO_2 4-5 kW | 1.5x3 m | Linear drive

FLEX PROD

Maximo

The long and short of laser cutting. Suitable for all sheet formats, up to 36 m.

CO_2 | CO_2 4-4.5 kW | 3x9-36 m

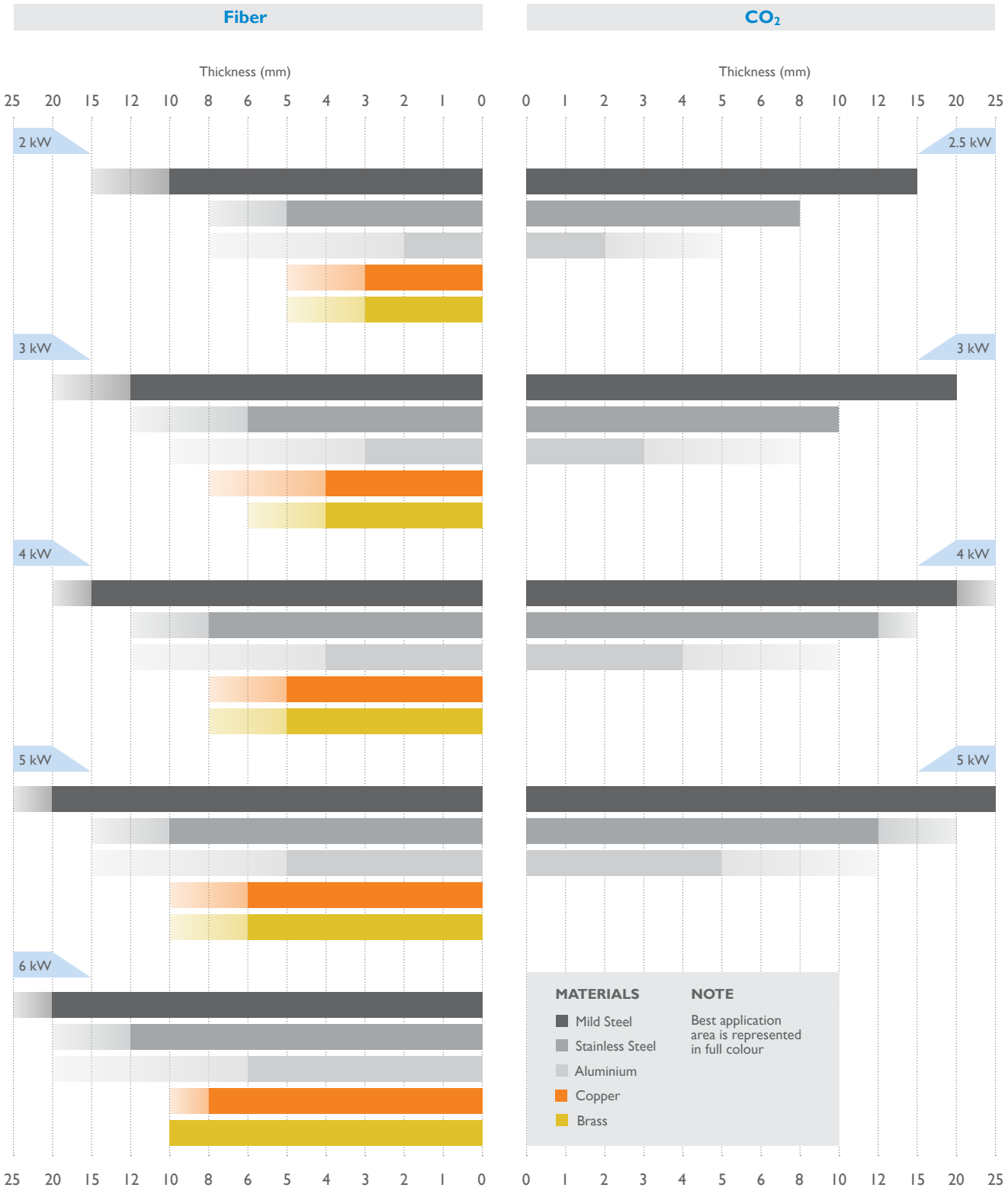
FLEX

All sheet formats

MULTI-PURPOSE OR SPECIALIZED MACHINES

Prima Power 2D laser product range covers every production need, ranging from ultra-fast cutting machines for utmost productivity to highly flexible solutions that can be profitably used for any production.

Thicknesses and materials.
The best solutions for your needs



Fast and efficient also for non-ferrous materials: particularly productive for medium-low thickness.

CO_2 High-quality results to the whole spectrum of processable thicknesses (0.8 to 25 mm).

Platino 2.0 Fiber

PROFITABLE FOR A PRODUCTION MIX INCLUDING ALL MATERIALS AND THICKNESSES

It represents the evolution of the fully-tested Platino platform by combining its reliability and flexibility with the state-of-the-art efficient laser technology.
Platino 2.0 Fiber is equipped with the high-brilliance fiber laser. It is available with laser powers ranging from 2 to 6 kW, to meet customers' specific needs.

FLEXIBLE
Suitable for a wide range of materials, including highly-reflective metals and high thickness mild steel. Ready for round, square and rectangular tubes.

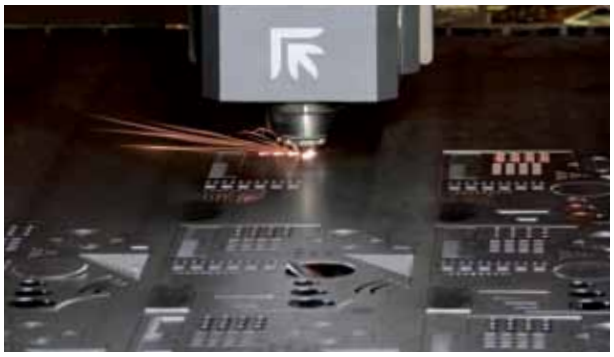
PROFITABLE
Low operating costs thanks to energy efficiency and reduced maintenance.

USER FRIENDLY
Single focusing lens system with automatic nozzle changer. Easy to use programming software and Prima Power operator interface.

RELIABLE
Fully-tested and reliable thanks to the 20 years of experience with the Platino platform.

MODULAR
Suitable for any production need, offering a full range of solutions for automation.

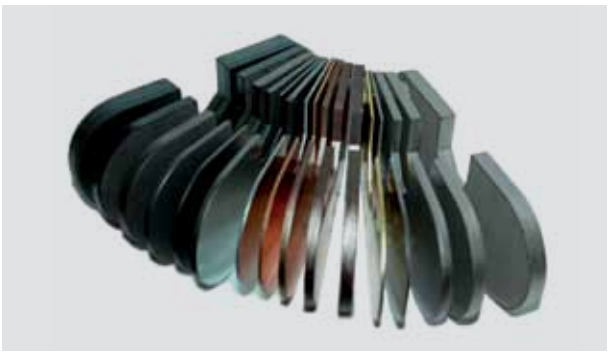
Platino Fiber features an optional rotary axis for the cutting of tubes of all materials.



Platino Fiber features reduce cycle time on all thicknesses and materials.

The machine is suitable for 24/7 production.

User-friendly Prima Power CNC.



Range of processable materials and thicknesses.

MACHINE FEATURES

Unique machine architecture based on a synthetic granite frame and an aluminium cast cantilever structure grants an **unparalleled accessibility to the working area**.

Lean Cabin design provides minimum footprint and easy installation. **Open Cabin** with fully opening sliding doors and fiber-safe windows grants excellent visibility of the cutting process and accessibility for the operator.

Cutting head designed by Prima Power: single lens strategy, protective glass, Piercing and Cutting Monitoring. Technological packages, functions and options meets all customer's demands.

Numerical Control, Operator interface and programming software are **user-friendly and smart tools**, developed and manufactured by Prima Power.

Thanks to **a wide range of automation solutions**, Platino Fiber grows with your company: from a stand-alone machine to a 24/7 operating FMS.

Technical specifications

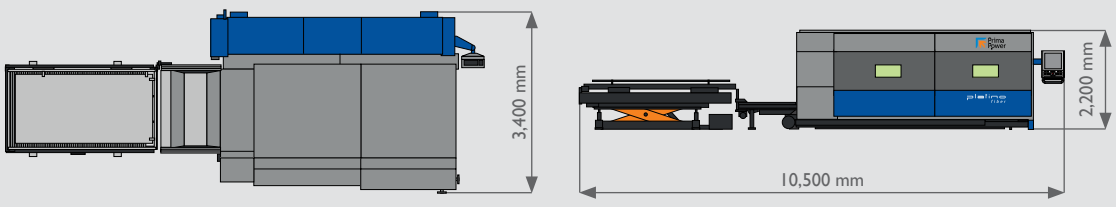
Platino® 2.0

LPf2 1530

WORKING AREA (*)	X = 3,000 mm Y = 1,500 mm Z = 150 mm
MAXIMUM SPEED	
Single axis	X,Y = 100 m/min
Trajectory	X,Y = 140 m/min
ACCURACY (**)	
X, Y, Z	Positioning accuracy (Pa): 0.03 mm Repeatability (Ps): 0.03 mm
- according to VDI/DGQ 3441 standards - length of measuring: complete stroke	
TUBE CUTTING (OPTIONAL)	CNC-controlled rotary axis for the cutting of round and rectangular tubes
MAXIMUM OVERALL DIMENSIONS	
(automatic pallet and protection cabin included, water chiller, fumes extractor and photocells excluded)	
Length	10,500 mm
Width	3,400 mm
Height	2,200 mm
WEIGHT (BASIC MACHINE)	10,000 kg
STANDARD FIBER LASER POWER	2,000 W - 6,000 W

(*) Dimensions in inches: X = 120, Y = 60

(**) The accuracy of the piece depends on its type, size and pre-treatment, and the conditions of application.



Laser Genius

HIGHLY PROFITABLE FOR A PRODUCTION MIX MORE ORIENTED TOWARDS THIN-MEDIUM GAUGES

It combines the flexibility of the Platino with increased productivity and efficiency, obtained through the innovative use of materials such as the carbon fiber carriage and the synthetic granite frame.
The efficiency is further enhanced by our high-dynamic linear drive which contributes increasing its productivity up to +15%, compared with conventional drive systems.

PRODUCTIVE

High dynamic linear drive increases productivity on thin sheets (+15%) compared with conventional drive systems.

ACCURATE

Precise and repeatable in cutting and laser head positioning thanks to the effective CNC management of linear drive.

PROFITABLE

Low operating costs thanks to high energy efficiency and reduced maintenance.

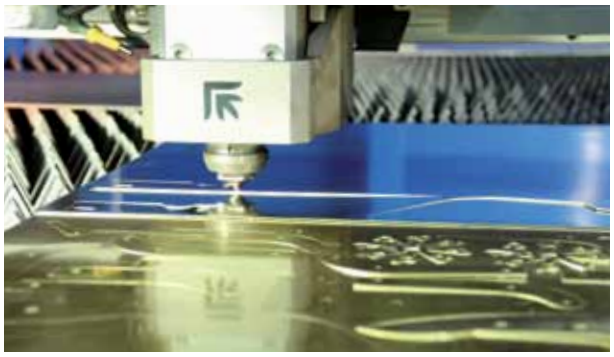
MODULAR

Suitable for any production need, offering a full range of solutions for automation.

USER FRIENDLY

Single focusing lens system with automatic nozzle changer. Easy to use programming software and Prima Power operator interface.

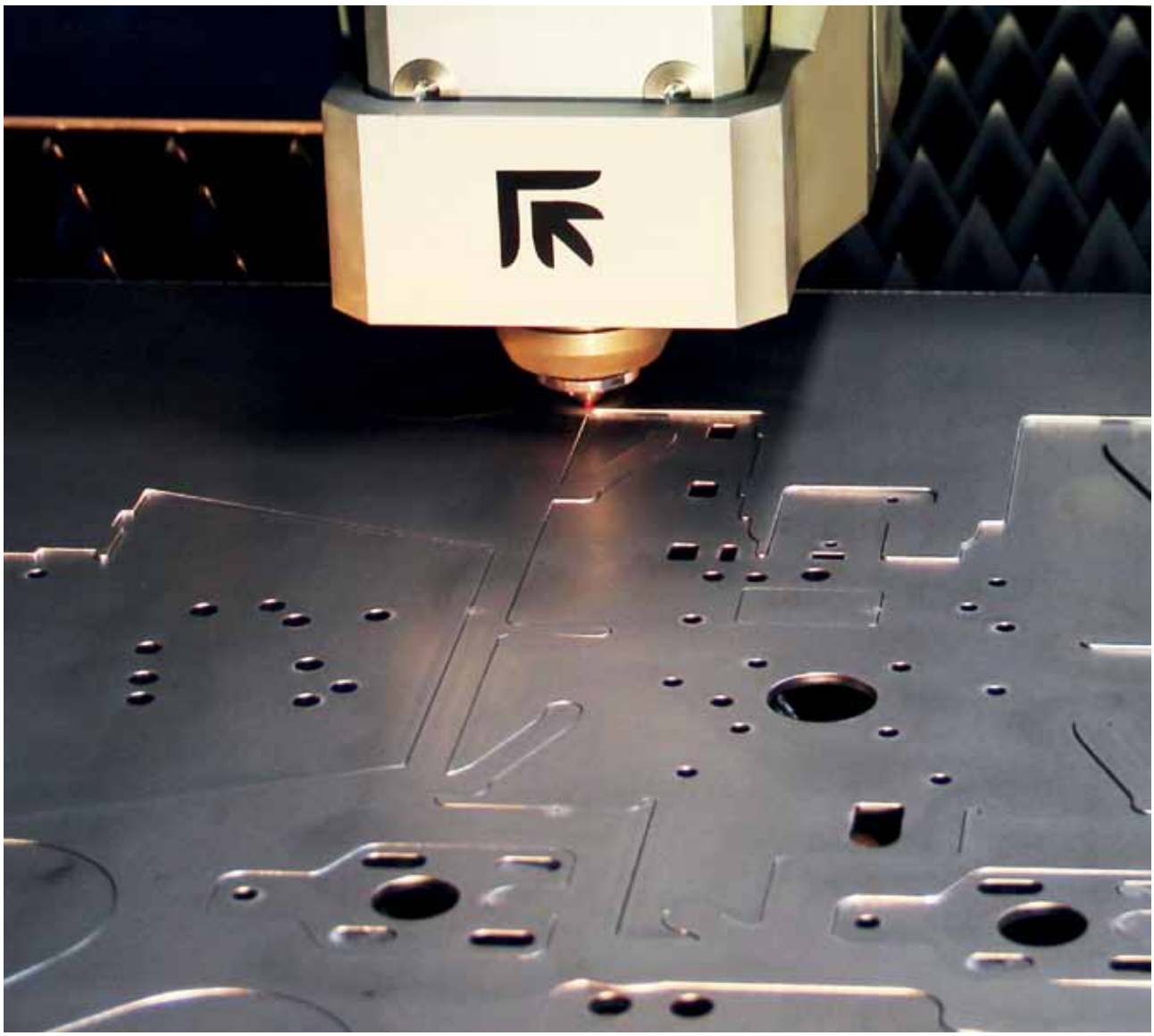
System for efficient sorting and stacking of cut parts.



Laser Genius fiber laser head is suitable also for high reflective materials.

Prima Power CNC and proprietary process sensors for utmost ease of use.

Carbon fiber carriage providing high performance and accuracy.



MACHINE FEATURES

Unique machine architecture based on a **synthetic granite frame** and **carbon fiber** cantilever structure provide fiber laser technology and linear drive at their best.

Cutting head designed by Prima Power: **single lens strategy**, protective glass, Piercing and Cutting Monitoring. Technological packages, functions and options meet all customers' demands.

High energy efficiency fiber laser, low maintenance required and no laser gases reduce the operating cost.

Numerical Control, Operator interface and programming software, developed and manufactured by Prima Power, are **user-friendly and smart tools**.

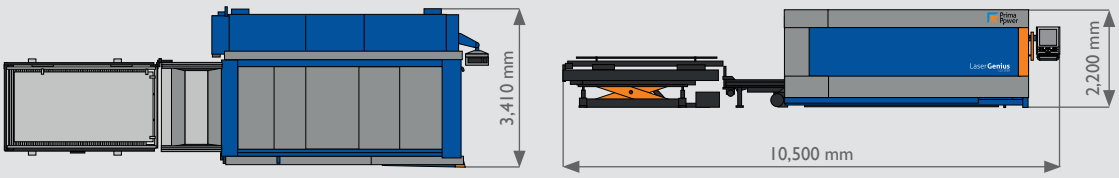
Lean Cabin design provides minimum footprint and easy installation. **Open Cabin** with fully opening sliding doors grants excellent accessibility for the operator.

Technical specifications

Laser**Genius**

	LGf 1530	LGf 2040
WORKING AREA (*)	X = 3,000 mm Y = 1,500 mm Z = 150 mm	X = 4,000 mm Y = 2,000 mm Z = 150 mm
MAXIMUM SPEED		
Single axis		X,Y = 170 m/min
Trajectory		X,Y = 240 m/min
ACCURACY (**)		
X, Y, Z		Positioning accuracy (Pa): 0.03 mm Repeatability (Ps): 0.03 mm
- according to VDI/DGQ 3441 standards - length of measuring: complete stroke		
MAXIMUM OVERALL DIMENSIONS		
(automatic pallet and protection cabin included, water chiller, fumes extractor and photocells excluded)		
Length	10,500 mm	12,600 mm
Width	3,400 mm	4,080 mm
Height	2,200 mm	2,200 mm
WEIGHT (BASIC MACHINE)	9,000 kg	11,000 kg
STANDARD FIBER LASER POWER		2,000 W - 6,000 W

(*) Dimensions in inches: 1530 X = 120, Y = 60 | 2040 X = 160, Y = 80
(**) The accuracy of the piece depends on its type, size and pre-treatment, and the conditions of application.



Valid for LGf 1530

Syncrono

THE FASTEST MACHINE FOR THIN SHEETS ONLY

Syncrono is the top performance 2D laser machine by Prima Power for high-speed cutting of thin sheet metal.
With its unique and revolutionary design and its 6 g acceleration, Syncrono is the best machine on the market to produce the dynamics necessary for fiber laser technology on thin gauge sheets.
The energy efficiency of the Syncrono (small masses execute faster movements) is further enhanced with fiber laser. This technology allows a dramatic reduction of the electric consumption, through the use of lower power and the high efficiency and simplicity of the source.

FAST
High dynamics and redundant axes allow high productivity on complex profiles cutting on thin materials.

EFFICIENT
Low energy consumption and environmental footprint.

ACCURATE
Precise and repeatable in cutting and laser head positioning.

MODULAR
Suitable for any production need, offering a full range of solutions for automation.

USER FRIENDLY
Easy to use programming software and Prima Power operator interface. Fast setup and reduced downtime.

Syncrono features 6 g of acceleration allowing 1,000 holes/minute.

Main and local axes are perfectly synchronized during cutting.

Syncrono is designed for thin, complex parts.

Night Train FMS® lights-out production.

MACHINE FEATURES

Two machines in one: **two additional local axes synchronized with the main machine axes** to obtain the best cycle times and cutting quality.

Focusing head with unique and revolutionary parallel kinematics design allows **6 g acceleration during cutting.**

A **wide and modular range of solutions for the automation** of the sheet metal handling available for all production types and sizes.

Protection cabin with roof, fiber-safe windows and fully opening sliding doors: **total safety**, visibility of the work area and accessibility for the operator.

Laser head equipped with Optical Precision Control for **quick, simple and perfect nozzle alignment**.

Technical specifications

syncrono®

LSf 1530

WORKING AREA (*)		X = 3,000 mm Y = 1,5000 mm Z = 115 mm
STROKES OF LOCAL AXES		U,V = ± 50 mm
MAXIMUM SPEED	**MAIN AXES**	**LOCAL AXES**
Single axis	X,Y = 100 m/min	U,V = 100 m/min
Trajectory	X,Y = 140 m/min	X,Y = 200 m/min
ACCELERATION	**MAIN AXES**	**LOCAL AXES**
	X,Y = 0.8 g (single axis)	U,V = 6 g (single axis)
ACCURACY (**)	**MAIN AXES**	**LOCAL AXES**
Positioning accuracy (Pa)	0.03 mm	0.02 mm
Repeatability (Ps)	0.03 mm	0.02 mm

- according to VDI/DGQ 3441 standards
- length of measuring: complete stroke

MAXIMUM OVERALL DIMENSIONS

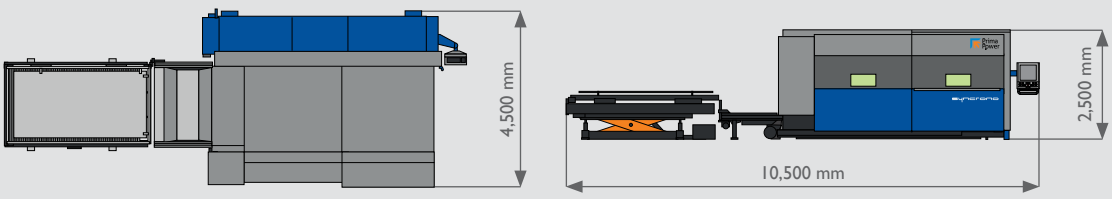
(automatic pallet and protection cabin included, water chiller, fumes extractor and photocells excluded)

Length	10,500 mm
Width	4,500 mm
Height	2,500 mm

WEIGHT (BASIC MACHINE)	12,000 kg
STANDARD FIBER LASER POWER	2,000 W

(*) Dimensions in inches: X = 120, Y = 60

(**) The accuracy of the piece depends on its type, size and pre-treatment, and the conditions of application.



Platino

CO_2

FLEXIBILITY AND HIGH QUALITY IN ALL THICKNESSES

Platino is the general purpose 2D laser cutting machine by Prima Power utilized around the globe across a multitude of applications, manufacturing demands, and budgets.
Available in two sizes (1530 and 2040) and with laser powers ranging from 2,500 W to 5,000 W, Platino is suitable for every application. Change over to tube processing can be achieved with zero setup time.
Thanks to its wide range of automation modules, Platino is the right solution for both small batches and large-scale production.

FLEXIBLE
Suitable for a wide range of materials and thicknesses. Ready for round, square and rectangular tubes.

ACCESSIBLE
Excellent visibility and maximum accessibility for the operator.

RELIABLE
Fully tested and reliable platform thanks to the 20 years of experience with the Platino platform.

USER FRIENDLY
Easy to use programming software and Prima Power operator interface. Fast setup and reduced downtime.

COST-EFFECTIVE
Excellent price/performance ratio.

Platino with automatic material handling and storing for intensive production.

Platino easily switches to tube cutting.

Platino equipped with LST for part sorting and stacking.

Synthetic granite frame provides top mechanical rigidity and stability.

Platino cuts any thicknesses with efficiency and quality.

MACHINE FEATURES

Unique machine architecture based on a synthetic granite frame and an aluminium cast cantilever structure grants an **unparalleled accessibility to the working area**.

Cutting head designed by Prima Power: Piercing and Cutting Monitoring, additional functions and options meet all customers' demands.

Open Cabin with fully-opening sliding doors and large windows grants **excellent visibility of the cutting process** and accessibility for the operator.

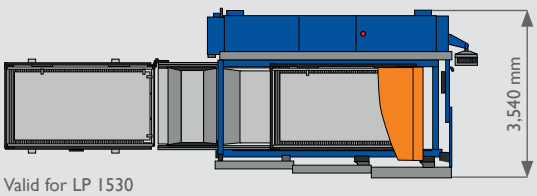
Numerical Control, Operator interface and programming software are **user-friendly and smart tools**, developed and manufactured by Prima Power.

A **wide range of automation solutions** allows Platino to grow with your company: from a stand-alone machine to a 24/7 operating FMS.

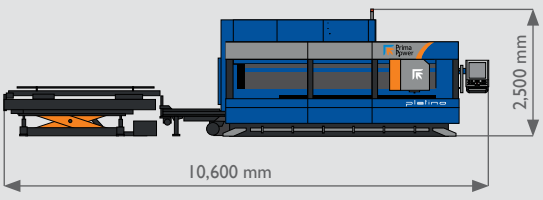
Technical specifications

platino®	LP 1530	LP 2040
WORKING AREA (*)	X = 3,000 mm Y = 1,500 mm Z = 150 mm	X = 4,000 mm Y = 2,000 mm Z = 150 mm
MAXIMUM SPEED		
Single axis	X,Y = 100 m/min	X,Y = 80 m/min
Trajectory	X,Y = 140 m/min	X,Y = 110 m/min
ACCURACY (**)		
X, Y, Z	Positioning accuracy (Pa): 0.03 mm Repeatability (Ps): 0.03 mm	
- according to VDI/DGQ 3441 standards - length of measuring: complete stroke		
TUBE CUTTING (OPTIONAL)	CNC-controlled rotary axis for the cutting of round and rectangular tubes	
MAXIMUM OVERALL DIMENSIONS		
(automatic pallet changer and protection cabin included, water chiller, fumes extractor and photocells excluded)		
Length	10,600 mm	12,900 mm
Width	3,540 mm	4,200 mm
Height	2,500 mm	2,500 mm
WEIGHT (BASIC MACHINE)	10,000 kg	12,000 kg
STANDARD CO_2 LASER POWER	2,500 W - 5,000 W	

(*) Dimensions in inches: 1530 X = 120, Y = 60 | 2040 X=160, Y=80
(**) The accuracy of the piece depends on its type, size and pre-treatment, and the conditions of application.



Valid for LP 1530



Zaphiro

CO_2

HIGH PRODUCTIVITY, SUPERIOR QUALITY AND MAXIMUM ACCURACY IN ALL THICKNESSES

Zaphiro by Prima Power is the high-end model in the CO_2 laser product range.
High productivity is ensured by machine features such as very high dynamic performance and solutions which allow reduced manufacturing time.

PRODUCTIVE
High-dynamic linear drive increases productivity compared with conventional drive systems.

ACCURATE
Precise and repeatable in cutting and laser head positioning.

MODULAR
Suitable for any production need, offering a full range of solutions for automation.

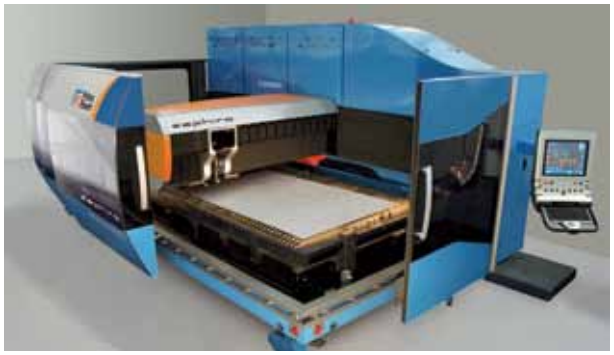
RELIABLE
Fully-tested and reliable thanks to the 20 years of experience with the Platino platform.

USER FRIENDLY
Easy to use programming software and Prima Power operator interface. Fast setup and reduced downtime.

Zaphiro with Compact Tower for automatic material handling and storing.

Zaphiro is a flexible machine cutting any sheet thickness productively.

Night Train FMS®, factory-wide manufacturing solution by Prima Power.



Zaphiro open cabin for full accessibility and ergonomics.

Automatic nozze changer for enhanced process reliability.

MACHINE FEATURES

Thanks to the **linear motors** and the advanced CNC, Zaphiro features very high productivity and quality.

CO_2 laser allows **wide range of thicknesses** from 0.8 to 25 mm and the best efficiency for a CO_2 laser.

Synthetic granite frame for best thermal stability and vibration damping.

Wide range of modules for the automation of the material handling and storage.

Numerical Control, Operator interface and programming software are **user-friendly and smart tools,** developed and manufactured by Prima Power.

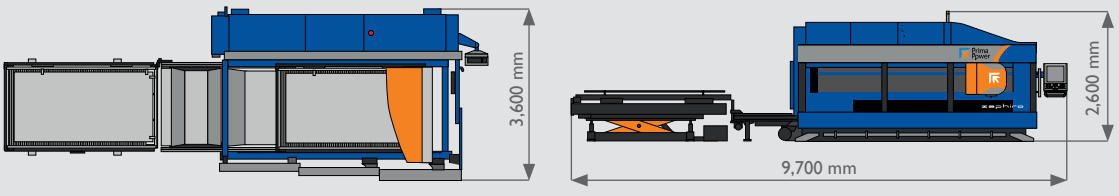
Technical specifications

zaphiro®

LZ 1530

WORKING AREA (*)	X = 3,000 mm Y = 1,500 mm Z = 150 mm
MAXIMUM SPEED	
Single axis	X,Y = 170 m/min
Trajectory	X,Y = 240 m/min
ACCURACY (**)	
X, Y, Z	Positioning accuracy (Pa): 0.03 mm Repeatability (Ps): 0.03 mm
- according to VDI/DGQ 3441 standards - length of measuring: complete stroke	
MAXIMUM OVERALL DIMENSIONS	
(automatic pallet and protection cabin included, water chiller, fumes extractor and photocells excluded)	
Length	9,700 mm
Width	3,600 mm
Height	2,600 mm
WEIGHT (BASIC MACHINE)	10,000 kg
STANDARD CO_2 LASER POWER	4,000 W - 5,000 W

(*) Dimensions in inches: X = 120, Y = 60
(**) The accuracy of the piece depends on its type, size and pre-treatment, and the conditions of application.



Maximo

CO_2

SUITABLE FOR ALL SHEET FORMATS, UP TO 36 m

Maximo boasts all the advantages of the Platino, combined with a very large work area. This result is obtained with a simple but highly effective solution: a complete Platino machine - with its mechanical structure, laser generator, CNC, moving carriages, optical chain and focusing head - travelling on rails over a fixed working table.
In addition to the movement axes of the Platino machine (the Z axis for the vertical movement, the X and Y_1 axes for the longitudinal and transversal motion), Maximo features a further Y_2 axis, which allows the machine to move beyond its Y_1 axis stroke, as far as the sheet metal to be processed requires.

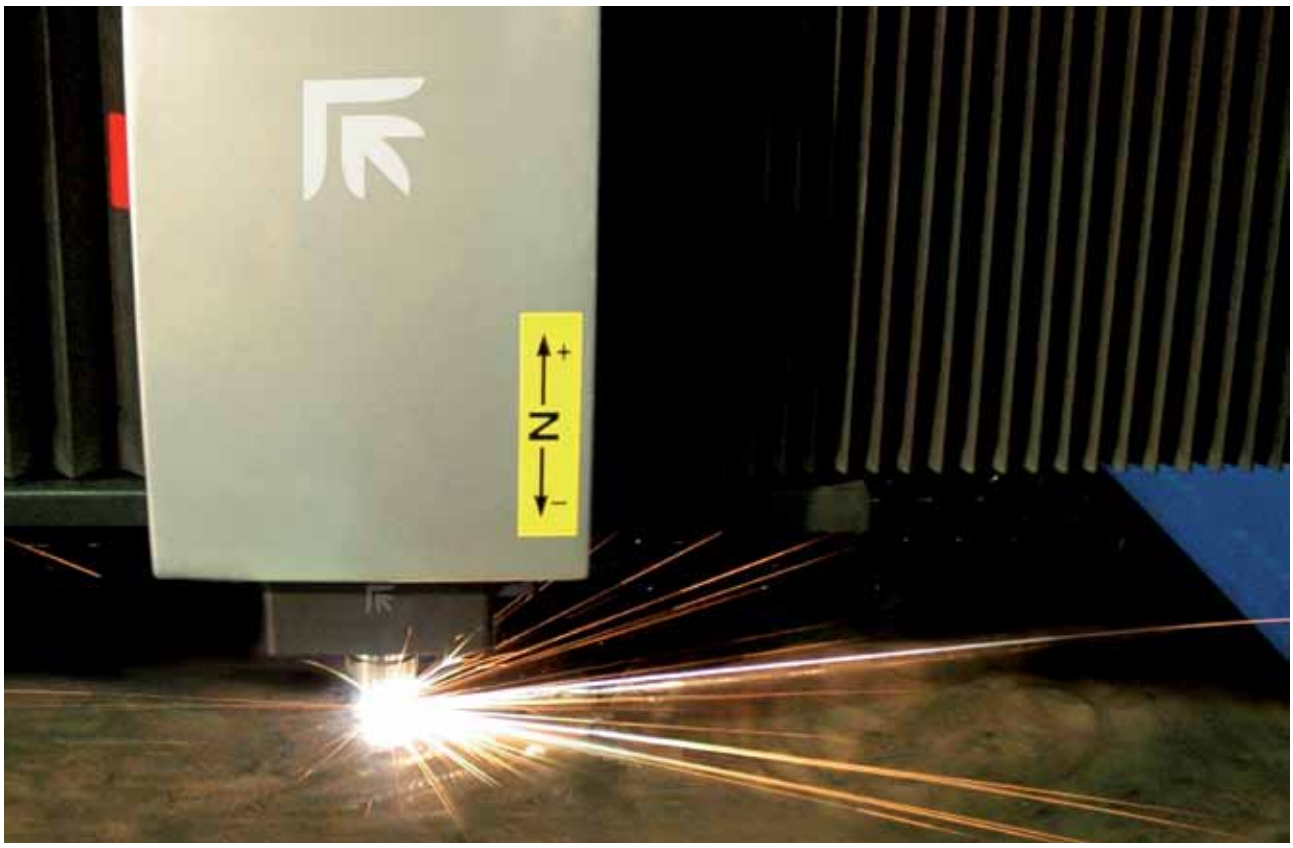
XL
The Platino for extra large formats.

FLEXIBLE
Working area customizable on customer's requirements from 9 m to 36 m.

RELIABLE
Fully-tested and reliable as a result of 20 years of experience with the Platino platform.

USER FRIENDLY
Easy to use programming software and Prima Power operator interface. Fast setup and reduced downtime.

ACCESSIBLE
Excellent visibility and maximum accessibility for the operator.



Maximo typical applications are naval, heavy transportation, building and construction industries.

Optional remote console.

Protection cabin with large windows for full visibility.

Optional webcam for remote control of the working area.

MACHINE FEATURES

No need of a complete foundation thanks to a patented solution for the main carriage guidance and isostatic support, only two plinths of the same length of the Y_2-axis stroke are needed.

Flexible work area gives the system great flexibility to accommodate the sheet metal to be processed.

No idle time for material handling and no need for additional time-consuming and costly devices such as pallet changer.

Piercing device for ferrous material of higher thicknesses.

Protection cabin fully enclosing the working area for **safety and visibility**.

Technical specifications

maximo

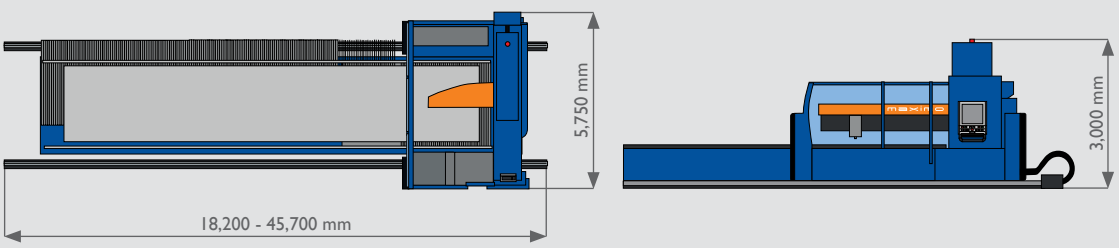
LM 3090 - 30360

WORKING AREA (*)	X = 3,000 mm Y_1 = 1,500 mm Z = 150 mm Y_2** = 9,000 - 36,000 mm
MAXIMUM SPEED	
Single axis	X,Y_1 = 100 m/min
Trajectory	X,Y_1 = 140 m/min
Y_2 Axis	Y_2 = 15 m/min
ACCURACY (***)	
X, Y, Z	Positioning accuracy (Pa): 0.03 mm Repeatability (Ps): 0.03 mm
- according to VDI/DGQ 3441 standards - length of measuring: complete stroke	
MAXIMUM OVERALL DIMENSIONS	
(water chiller and fumes extractor excluded)	
Length	18,200 - 45,700 mm
Width	5,750 mm
Height	3,000 mm
STANDARD CO_2 LASER POWER	4,000 W

(*) Dimensions in inches: X = 120, Y = 60

(**) Actual Y_2 stroke: from 10,620 mm to 37,980 mm for machine "parking" area.

(***) The accuracy of the piece depends on its type, dimensions and pre-treatment, as well as on the application conditions.



Freedom of choice, without complications

In order to meet our customers' requests, we have created three suites of options to better fit the different production needs: thin or thick metal sheets working and intensive productions.

SMART CUT

This option suite is the right solution to grant faster processing of thin metal sheets (up to 5 mm) where N_2 technology can be applied: this is possible thanks to technological solutions, like Smart Moves and Grid Cutting, able to reduce the downtime due to head positioning time.
The result is a reduction of cycle time up to 30%.

MAX CUT

This option suite has been designed for thick metal sheets processing: we have been able to give the customers an astonishing cycle time reduction up to 40% due to advanced solutions, like Nitrogen Piercing and Hi.Piercing, that increase piercing quality while lowering the time.

NIGHT CUT

For intensive production, Prima Power provides this option suite that maximizes the productivity enhancing the monitoring of the process.
This is possible thanks to advanced monitoring devices able to check the status of the process and intervene in case of errors by restarting the operation or informing you remotely; LPM, monitoring piercing operation, Plasma and Tip-Touch Restart, keeping control of the cutting process, E-mail dispatching, alerting the operator in case of machine failures.

These packages are available on Platino Fiber, Laser Genius, Platino and Zaphiro.

Innovation converted into action

The technological core of Prima Power machines is their laser head. It's a mix of innovation and technology, designed and developed to provide our customer the highest efficiency, flexibility and reliability.

FIBER HEAD

Prima Power fiber head features safe impact protection system, high dynamic focal axis with 35 mm stroke, lens drawer with quick alignment system (OPC) and protection glass drawer for easy inspection.
Nitrogen piercing, laser piercing monitor and automatic plasma restart further enhance the productivity.

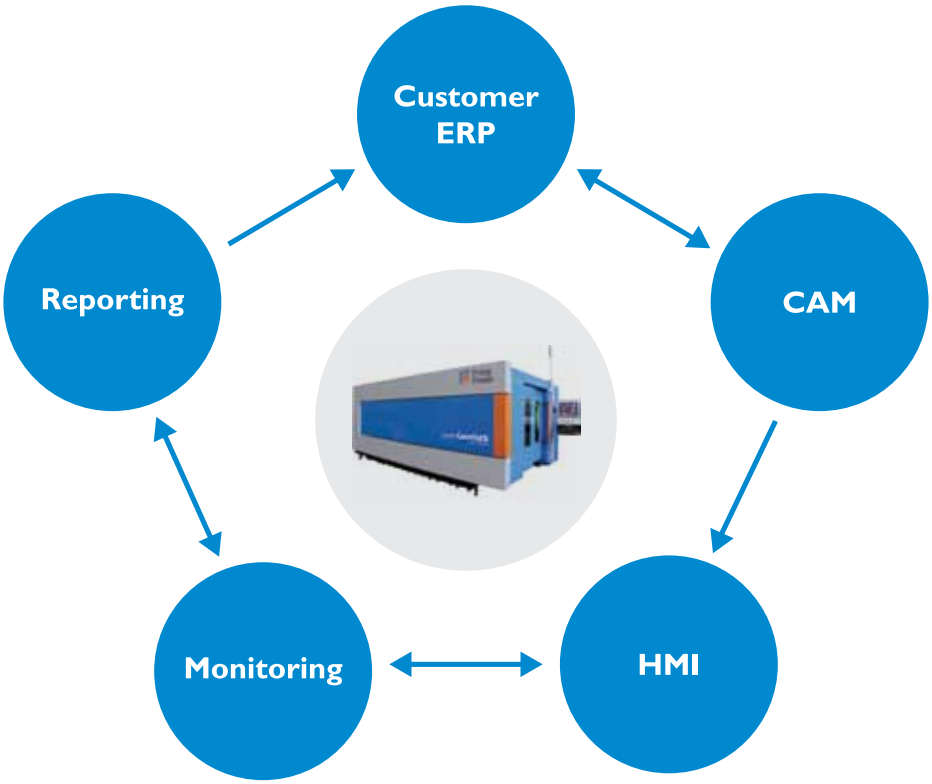
CO_2 HEAD

Prima Power CO_2 head features safe impact protection system, process gas pipe, wide range of nozzles, F axis for controlling the focal position independently of the Z axis, lens drawer (for 5" or 7,5" lenses), capacitive sensor for automatically maintaining the preset stand-off from the sheet metal.

Software and CNC: user-friendly and efficient

THE SOFTWARE

We offer our customers advanced software solutions to connect, manage and monitor the whole cycle of operations involved during the production.
The software provides the interaction between the various steps of production operation flow.



Customer ERP connection
Importing of production list order from customer ERP.

Cam programming / 2D Cam and Tube Cam
Efficient programming for a productive fabrication process:
- Powerful nesting
- Optimized Post Processor for 2D cut programming and tube cut programming
- Powerful simulation

Human Machine Interface
Interacting in an easy and friendly way, through touch screen, with the machine and relevant automation.

Monitoring / Production Control
Monitoring machine statuses and task lists and displaying all the events of all the machines in one view.

Production and Performance Data Reporting
Proprietary solution for viewing reports of machine status and analyzing production data.

NUMERICAL CONTROL

Our products take advantage of the latest generation of Prima Electro CNC. It represents the intelligent and user- friendly engine of our machines which provides fundamental features for managing and monitoring the production.

Laser parameters management
Technological parameters directly available on CNC.

Setup Tools
Laser and machine calibration to speed up maintenance operations.

Program management
Quick program selection with exhaustive preview function, available also in real time.

Program editing
Easy program changes directly from CNC.

Restart functions
Several dedicated solutions to increase productivity and process reliability.

Other options are:

- Maintenance manager. Tracking and recording the maintenance history of the equipment. It also allows the service engineer to easily operate on the maintenance counters.
- User's login level (e.g. administrator, maintenance engineer, machine operator etc.).
- Notification Manager. Automatic sending of email in case of error.

Around-the-clock production

Prima Power machines are highly reliable and are used worldwide in the harshest production environments and for the most demanding manufacturing schedules.

This makes them particularly suitable for 24/7 operation.

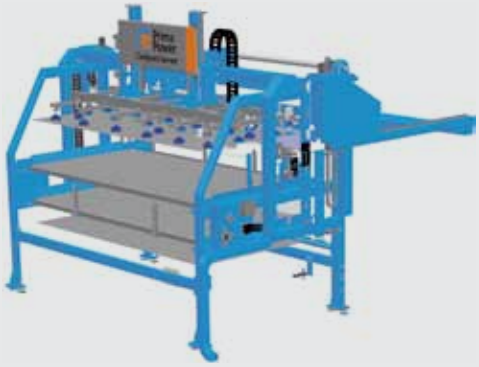
Compact Server

Loading/unloading device for handling blanks and processed sheets.

Two storage units (one for the blanks and one for the processed sheets).

Single sheet separating and control systems and sheet reference.

Smallest footprint.



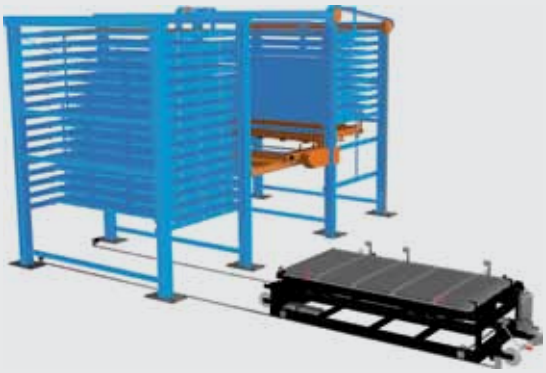
Compact Tower Twin

Loading/unloading devices for handling blanks and processed sheets.

Two storage towers with 26 or 36 pallets.

Single sheet separating and control systems and sheet reference.

Optimal system capacity/footprint ratio.



Night Train FMS®

Loading/unloading unit for handling blanks and processed sheets.

Fully automatic connection for multiple machines possible.

Flexible and modular layout.

In-house developed graphical control system and storage management.

Ideal for fully automated manufacturing and 24/7 operation.

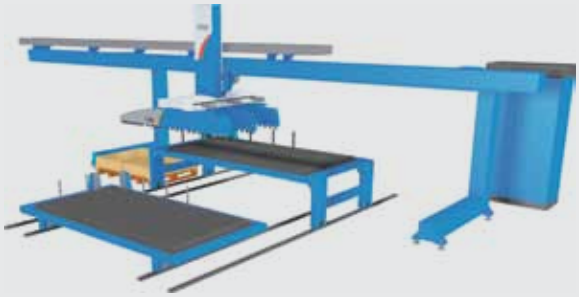
Compact Tower

Loading/unloading devices for handling blanks and processed sheets.

Storage tower with 10 or 15 pallets.

Single sheet separating and control systems and sheet reference.

Very limited footprint.



LST (automatic part stacking)

Automatic sorting and stacking device fully integrated with the laser system.

Cut parts are picked from table after cutting with Robot Assisted Laser Cut (RALC).

Easy management of parts into a fixed table, wagon or Night Train FMS®/Combo FMS® storage cassette.

Fully compatible with all our other automation systems.

	LOAD / UNLOAD **COMPACT SERVER**	LOAD / UNLOAD STORE **COMPACT TOWER**	LOAD / UNLOAD STORE + **COMPACT TOWER TWIN**	SORT **LST**	FMS **NIGHT TRAIN CONNECTION**
PLATINO 1530	●	●	●	●	●
PLATINO 2040		●	●		
PLATINO FIBER 1530	●	●	●	●	●
ZAPHIRO 1530	●	●	●	●	●
SYNCRONO 1530	●	●	●		●
LASER GENIUS 1530	●	●	●	●	●
LASER GENIUS 2040		●	●		
MAXIMO					

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

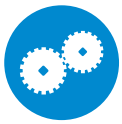
In addition to preventive maintenance, we offer high-quality corrective maintenance to guarantee fast recovery when there is a problem. With more than 12,000 machines installed in more than 70 countries, we are able to give our customer the required assistance no matter where they are.

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.

Technical Specifications

Working area	**X**	**Y**	**Z**
	mm	mm	mm
	3,050	1,540	400
Rotary axes **A** **B**	360° continuous (without limitation) ± 135° continuous (with respect to the vertical)		
Maximum speed **X,Y** **Z** **A,B**	100 m/min 50 m/min maximum combined speed of axes: 140 m/min 540°/s (1.5 revs per second)		
Maximum acceleration **X, Y, Z** **A,B**	1.2 g 0.8 g @TCP		
Linear axis resolution	0.001 mm		
Accuracy (*) • according to VDI/DGQ 3441 standards • measurement length: complete stroke **X, Y, Z** **A,B** (*) the accuracy of the piece depends on its type, dimensions and pretreatment, as well as on the application conditions.	Positioning accuracy (Pa): 0.03 mm 0.005°	Repeatability (Ps): 0.03 mm 0.005°	
Optional rotary axis for round, square and rectangular tubes: - minimum diameter (manual/automatic) - maximum diameter - maximum tube length	25/38 mm 300 mm 3,000 mm		
Maximum overall dimensions (Basic machine with automatic pallet changer, including protection cabin, excluding water chiller, air dryer and photocells)	**Length (L)**	**Width (B)**	**Height (H)**
	mm	mm	mm
	9,500	3,450	3,400
Weight (basic machine)	~ 12,000 kg		
Standard CO_2 laser power	3,000 W - 4,000 W		
Colours	Fixed parts: RAL 5015 - RAL 9006 Moving parts: RAL 2008		

primapower.com

Prima Power

Prima Power

The Bend
The Combi
The Laser
The Punch
The System
The Software

domino®

The laser flexibility

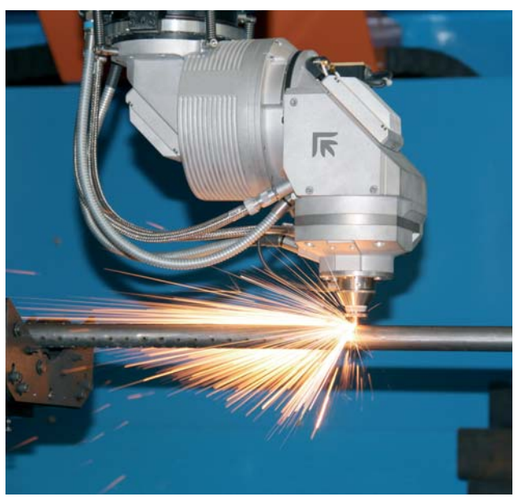
All-in-one laser machine

DOMINO® is a laser machine designed for today's industrial requirements for flexibility, productivity, efficiency, and quality.

A single machine cuts and welds flat sheet and three-dimensional parts, performs bevel cuts for the weld preparation and processes tubes and profiles.

DOMINO® is a high capacity 5-axis machine with the high dynamics of a 2D machine, a considerable work volume, and an extremely reduced footprint.

The direct-drive head is highly dynamic and accurate, ensuring excellent cutting quality even on thick sheets. Thanks to the rapid tool change system, it can be easily reconfigured to suit all types of processing.



Unique flexibility

DOMINO® combines Prima Power know-how in 2D machines and its unique expertise of 3D laser technology.

DOMINO® is the only 3D machine having a dedicated axis for the automatic control of the focal position providing great flexibility in production without any manual adjustment.

Thanks to the two focal length lenses provided (5" and 7.5") and to the fast-tool change system, DOMINO® is suitable for all types of 2D and 3D applications. With the optional rotary axis, tubes and profiles can be processed with zero set up times.

One typical application of this machine is the bevel cutting, even of thick-gauge sheets, as preparation of the parts before they are welded.

High performance

Fast and reliable

DOMINO® is the fastest 2D/3D laser machine on the market. The maximum combined speed of X, Y, Z axis is 140 m/min, acceleration is 1.2 g.

Its direct-drive head features high dynamics, accuracy, and quality of movements. Its collision protection system and its no-backlash and no-wear direct-drive technology reduce maintenance costs and times.

DOMINO® has a compact design for minimum footprint and easy transportation and installation. Its synthetic granite frame offers the best thermal stability and vibration damping.

Easy to use

The P20L numerical control by Prima Electro features Windows® operating system, intuitive HMI, advanced control algorithms, Tables-on-Board (TOB), 15" touch-screen and trackball.
With the MAESTRO-Libellula® CAD/CAM system and the portable handbox with graphic interface and joystick the programming of the machine is easy and fast.

Modular automation

The open and accessible configuration of DOMINO® allows an easy integration with the Prima Power modules for the automation of the material flow (e.g. pallet changer, sheet loader, Compact Server, Compact Tower, etc.).

Prima Power

What's Next?

Discover the new 3D laser system
for automotive production

Next is now.

Laser Next: the new laser machine for automotive production.

SPECIALIZATION
Laser Next is focused on the production of hot stamped steel components.
It’s designed, developed, manufactured, and tested for this specific application.

PERFORMANCE
First-class performance to grant lowest cycle times and excellent cutting quality.

MULTI-MACHINE
Optimized for multi-machine configuration. Better plant logistics.

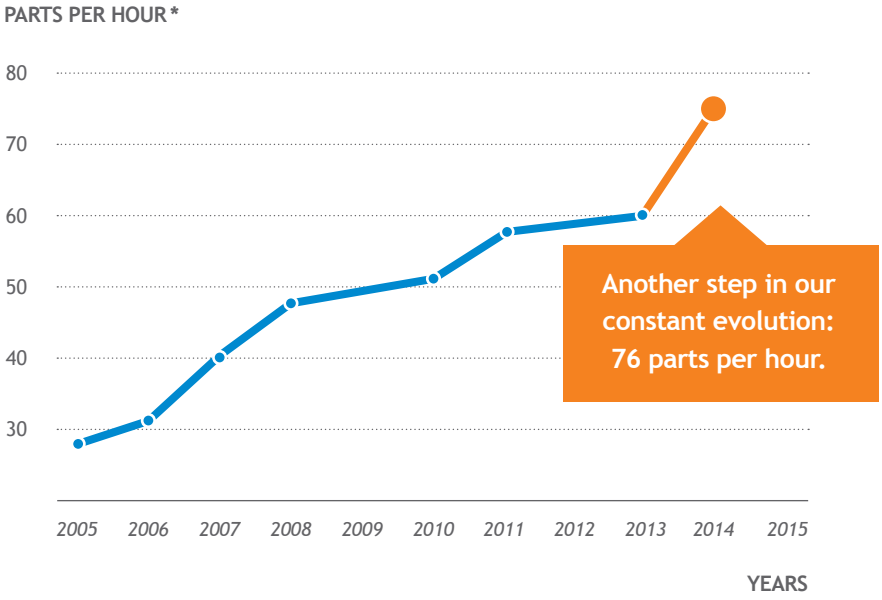
COMPACTNESS
Space saver, especially for multi-machine configuration. Easy and fast to install.

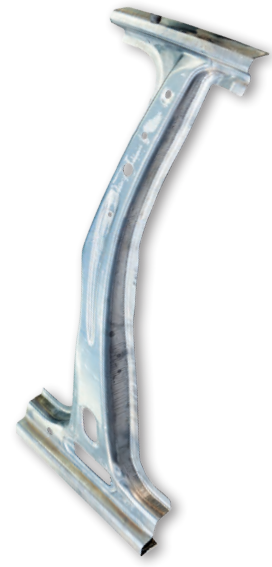
EFFICIENCY
Higher Overall Equipment Efficiency due to reduced downtime and maintenance.
Less resources dedicated and no special skills needed for simplified maintenance.

Aiming at your next goals.

How important is a +25% throughput for you?

Prima Power, with almost 20 years of experience in hot stamped steel industry, presents Laser Next, the world's fastest 3D laser machine. Laser Next provides very low cycle times and excellent Overall Equipment Efficiency.





* Benchmark B-pillar cutting time trend (PHS 1.85 mm)

4 MACHINES PRODUCE AS 5

LASER NEXT

300
PARTS PER HOUR
BY 4 MACHINES

PREVIOUS MODEL

300
PARTS PER HOUR
BY 5 MACHINES

HARDER

Improved stiffness
+50% compared to the previous model

FASTER

The fastest 3D laser machine in the world!
Trajectory speed: 208 m/min
Trajectory acceleration: 2.1 g

SMARTER

Smart CAD/CAM
with Fast Curve Connect System to reduce cutting times

Next to you.

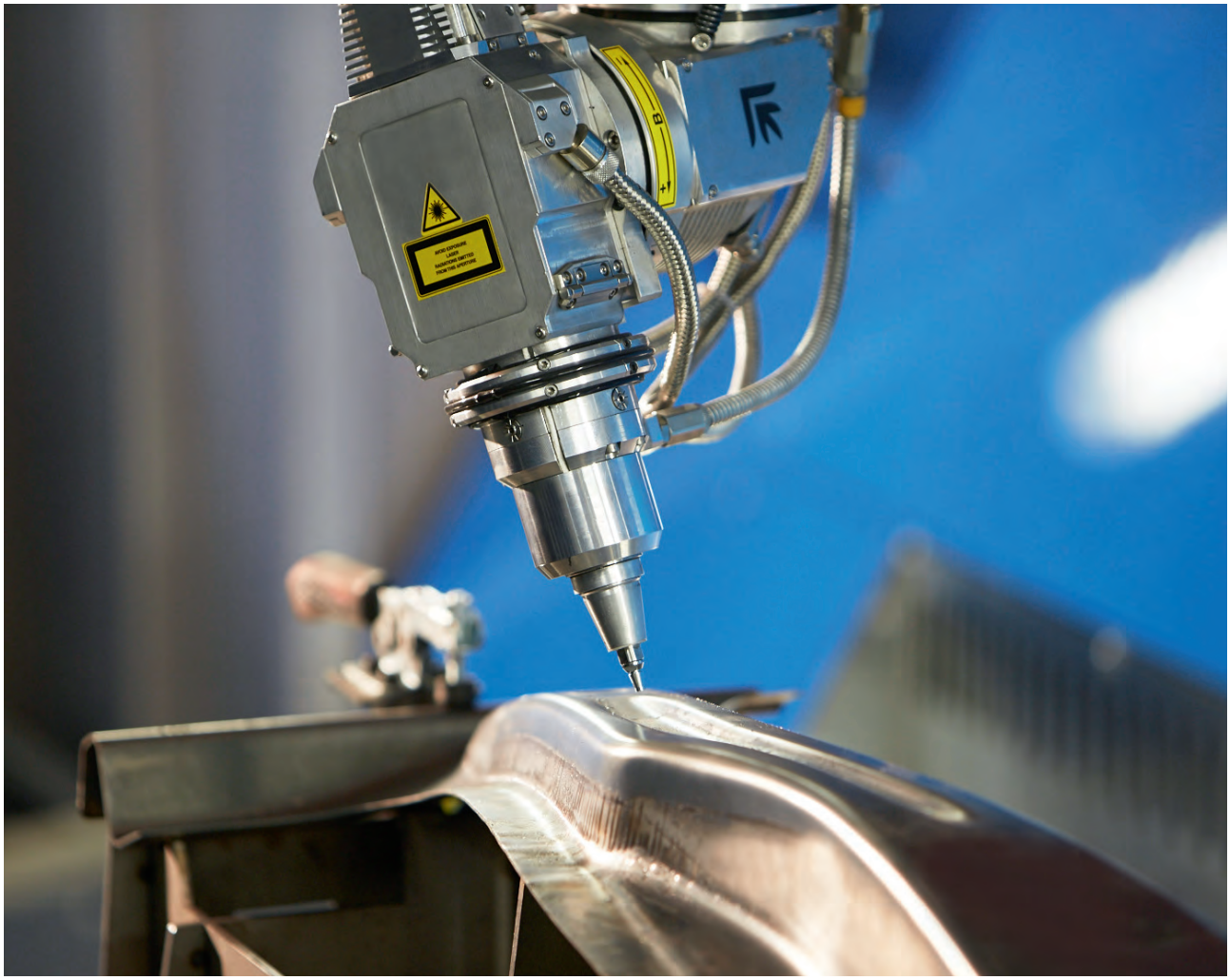
Focused on your needs.

Laser Next is the fastest 3D fiber laser machine in the world and it has been designed for intensive cutting of hot-formed parts for the automotive industry.

In designing the new Laser Next our commitment was to meet three major automotive customers' demands:

- increase the productivity
- reduce downtime, maintenance and non-productive times
- reduce the equipment footprint

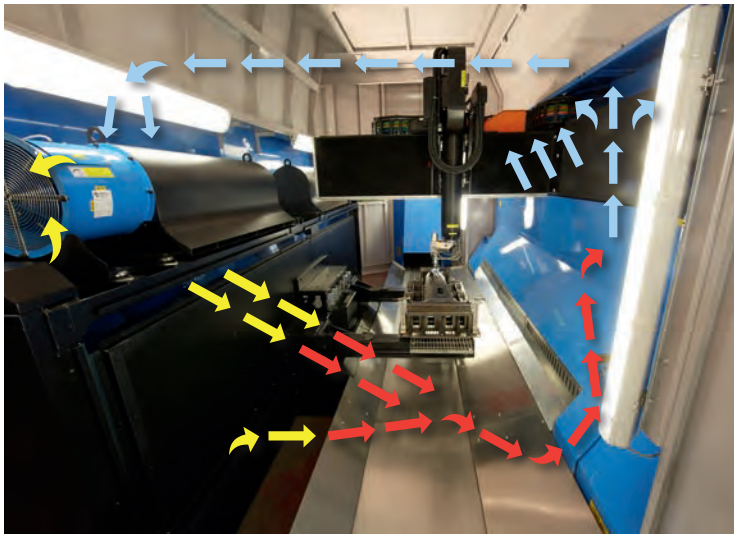
The benefits are clear and real: a strongly elevated production efficiency and an increased productivity per square meter ratio.



Focusing head with standard FPC: better sealed and more compact. Improved focal regulation system more stable and robust (in the event of a crash it remains accurate).

Other features include: **direct drive motors,** lean architecture, double protected SIPS and fully metallic sensor.

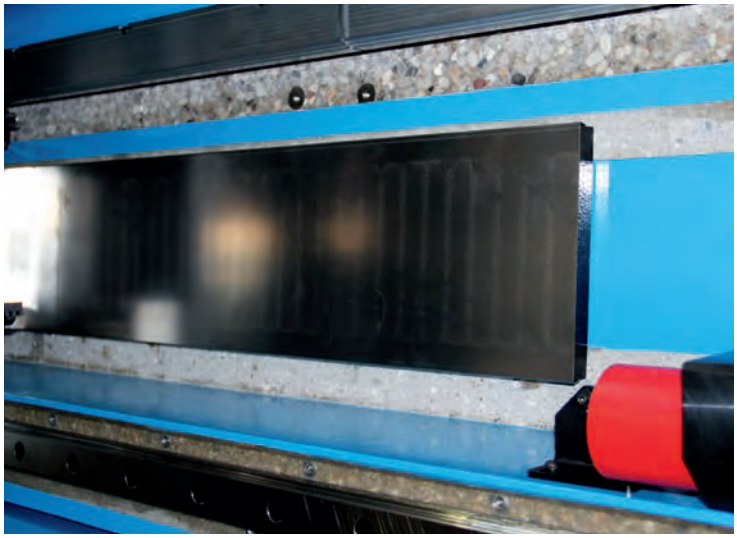
Next level machine.



Well-organized spaces for layout optimization with excellent performance in fume exhausting (see air flow in the picture).

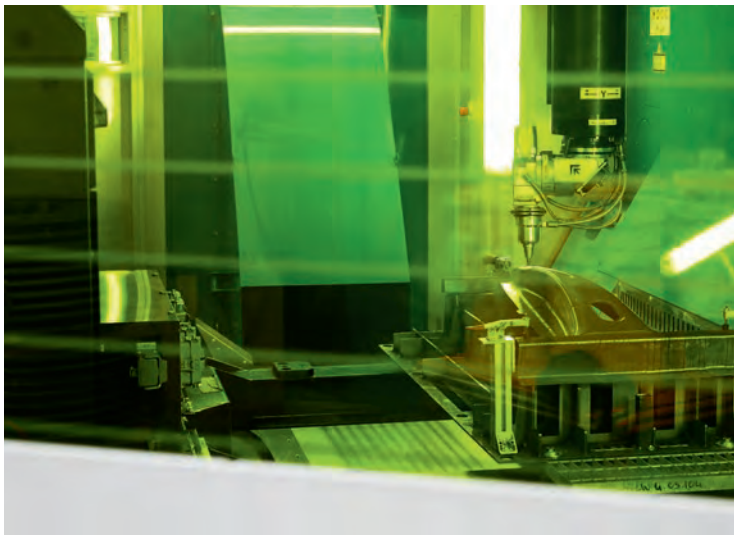
The magnetic scrap conveyor helps reduce metallic dust in cutting area.

High precision turntable with servo motor and absolute encoder. Designed to ensure the highest reliability and safety.
Integrated blowers for efficient fumes exhausting.



Direct motors and transducers with optical scales on main axes and on focusing head: superior dynamics and precision. No drive belts or gears mean constant accuracy and no adjustments.

Synthetic granite frame with state-of-the-art topology optimization methods for smooth and regular machine movements, even at the highest dynamics.



Two windows with integral interlocks for excellent visibility and complete safety.

Reduced turntable blocking times and close photoelectric barriers close to the machine grant ergonomics for the operator.

One next to the other.

Higher productivity / square meter ratio:

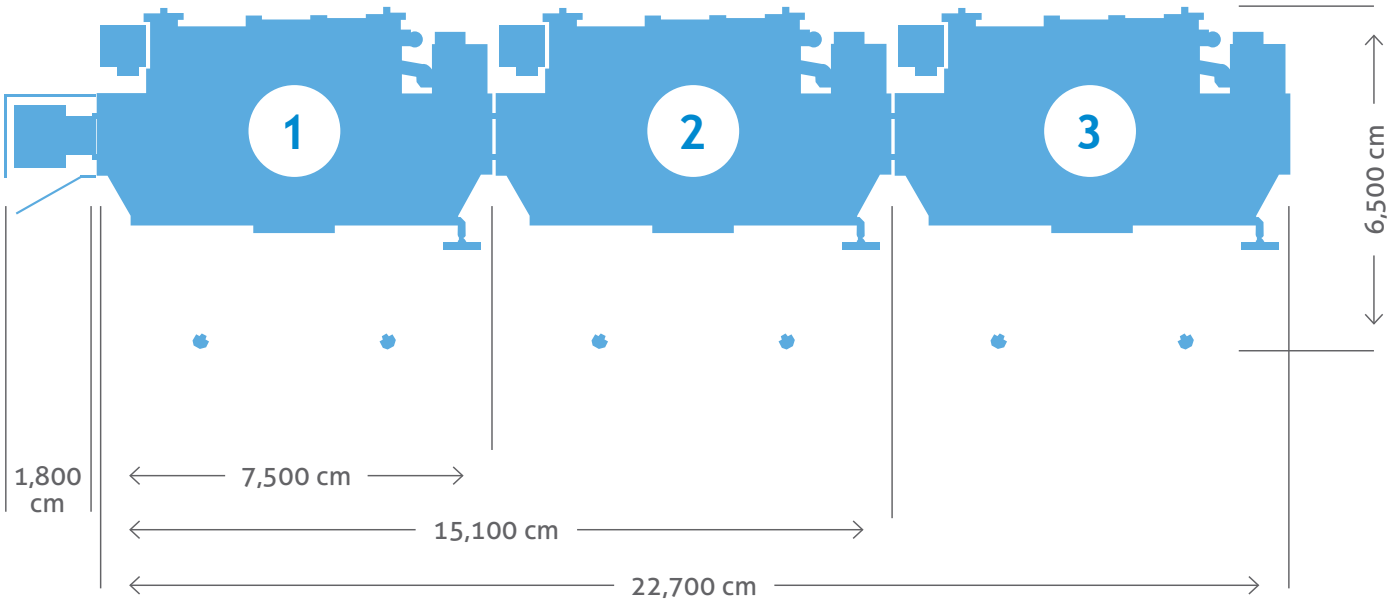
+80% parts per square meter (*)

-40% occupied floor (*)

Consistent space reduction due to the modular design:
Laser Next components are well organized into a square area and peripheral devices are not separated from the machine.

Even bigger space reduction with the multi-machine configuration due to the ability to position one machine close to the other and to the scrap collector that can be used for up to 3 machines. No excavation work required for easier installation.

(* Values calculated in comparison to the previous model)



Technical specifications

LaserNext
LN 1530-3D

AXIS STROKES	X = 3,050 mm Y = 1,530 mm Z = 612 mm
ROTARY AXES	A = 360° continuous B = ± 135° C = ± 12 mm
SPEED	X, Y, Z = 120 m/min A, B = 540°/s (1.5 rev/s) C = 50 m/min TRAJECTORY = 208 m/min
ACCELERATION	X, Y, Z = 1.2 g A, B = 9.5 rev/s^2 C = 4 g TRAJECTORY = 2.1 g
LINEAR AXIS RESOLUTION	0.001 mm
HEAD AXIS RESOLUTION	0.00006°
ACCURACY (*)	
- according to VDI/DGQ 3441 standards	X, Y, Z = 0.03 mm
- measurement length: complete stroke	A, B = 0.005°
MAXIMUM OVERALL DIMENSIONS	
Width	6,500 mm
Length (one machine)	7,500 mm
Length (two machines)	15,100 mm
Length (three machines)	22,700 mm
Height	3,800 mm
WEIGHT	
Machine Weight (without scrap conveyor)	19,000 kg
FIBER LASER POWER	3,000 W - 4,000 W

(*) The accuracy of the piece depends on its type, dimensions and pretreatment, as well as on the application conditions

Prima Power

The Bend
The Combi
The Laser
The Punch
The System
The Software

rapido®

The laser solution

Productive, efficient, flexible

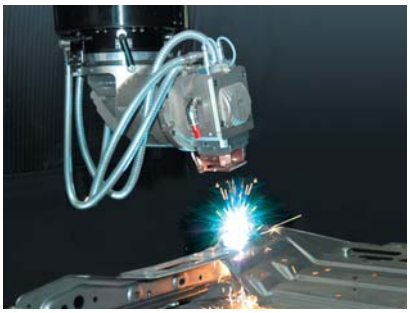
Laser machines today have reached very high performances and are increasingly replacing more conventional methods in almost all industrial fields.

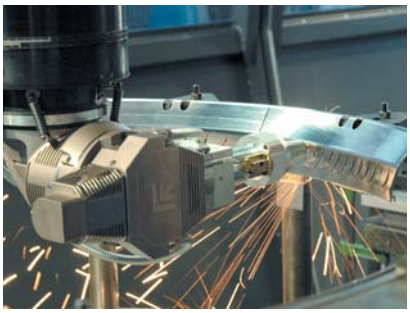
The real challenge for manufacturers of these systems is now to combine the enhancement of their performances with the improvement of their efficiency, flexibility, ease of use and eco-friendliness, features which are more and more important in every industrial application.

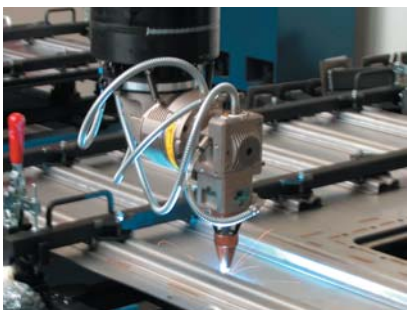
The latest generation of RAPIDO® is a highly effective answer to this modern challenge.

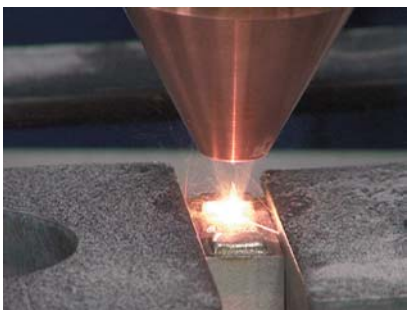
Versatile, but always at its best

Over 30 years' experience in the field allows Prima Power to offer you the best results in all specific cutting and welding applications. CO_2 or fiber lasers are available to answer different production needs.









Many good reasons to use RAPIDO®

The profit

- Best in class for machine architecture and control solutions
- First rate productivity, quality, efficiency
- Best precision and dynamics available on the market
- Flexibility: different applications with a single machine
- Well-proven in the most demanding manufacturing environments
- Long-lasting experience in the widest range of applications
- Highly efficient after sales services, customizable on your needs

The footprint

- High productivity combined with high energy efficiency
- Low operating costs and reduced maintenance
- Great accessibility and freedom of configuration
- Large work volume with reduced machine dimensions
- Flexibility: simple and immediate set-up and changes of production
- Easy and smart use, ergonomic design

green means®

Dynamics and power

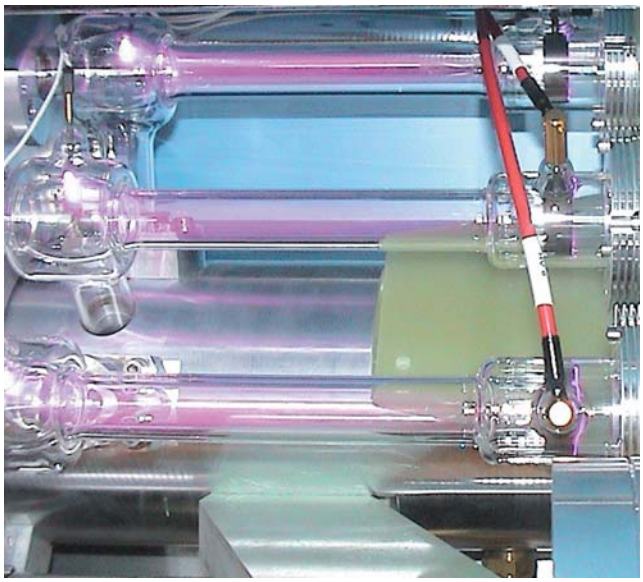
Machine

- Mobile optics: accuracy and speed are independent of the weight and size of components to be worked.
- Monolithic structure: laser, CNC and electromechanics in a compact, single unit.
- Synthetic granite frame designed with state-of-the-art topology optimization methods: innovative solution for stiffness and damping capacity, resulting in smoothness of movements, even at the highest dynamics.
- Overhead retractable arm, cantilever, no sagging: great accessibility.

Laser

- High brilliance fiber laser with high energy efficiency, no maintenance and eco-compatible use. It gives greatest benefits for large series production. Available with powers from 2 to 3 kW.
- CP or CV series CO_2 laser with top application flexibility, high reliability and low running costs, particularly suitable for frequent changes of production. Available with powers from 2.5 to 5 kW.

Performances and profitability of fiber and CO_2 lasers depend on application: Prima Power experts will suggest you the best solution for each specific case.



Numerical control

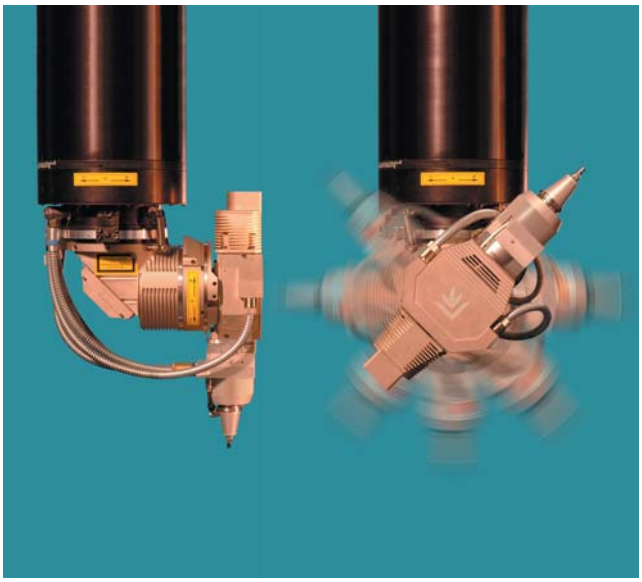
P30L numerical control by Prima Electro:

- User-friendly slim console with 17" LCD touch screen, trackball and retractable keyboard.
- High computational power and powerful HMI, Windows® embedded.
- Advanced algorithms for predictive trajectory control.
- TOB (Technology On Board) and TOBIA (Technology On Board Interface Application).
- Integrated CAM (optional).

Easy and flexible use

Smart programming

- User-friendly and powerful 3D and 2D CAD-CAM software.
  They allow an easy and quick generation and testing of the entire cutting program starting from the mathematic models of the workpiece.
- Graphic interface for easy part-program optimization: no need of G-Code modifications, all editing is graphically performed.
- Portable self-teach programming handbox, ergonomic and intuitive to use (large screen, graphic interface, joystick).



Shorter cycle times - Higher flexibility

- Predictive trajectory control: maximized speed according to desired accuracy.
- LPM: remarkable reduction of piercing time.
- FPC: production changes without optics set-up.
- Perfect Tool package: quick, easy and accurate head geometries calibration and beam-tip alignment.

Focusing head

- Direct drives and transducers: high dynamics and accuracy, no backlash, reduced maintenance.
- Minimum encumbrance and excellent penetration capacity.
- Dedicated adaptive axis, with very high dynamics maintains workpiece surface stand-off distance.
- A measuring machine within the cutting one: RAPIDO®'s cutting nozzle can be used as a measuring tool to speed up the set-up time as well as to validate parts directly on the machine.
- Double safety joint (SIPS): in case of collision the nozzle and/or the whole head collapse. Quick and simple repositioning.
- Modularity and application flexibility.

Maximum safety and reliability

Automation

RAPIDO® can be equipped with different automation solutions, ranging from very simple to very complex ones, depending on the type of process, the quantity and size of the parts to be manufactured and the process duration for each part.

Safety

All solutions provide safe operation, and are equipped with optimized fume exhaust.
Windows materials are chosen according to the laser source type (CO_2 or fiber), and in order to ensure maximum safety they are active and stop the machine if accidentally hit by the laser beam.

A variety of solutions

RAPIDO® is supplied with a "standard" protection cabin with automatic doors giving total accessibility to the full working volume.

An optional "split" wall can be easily added to this solution, dividing the working volume in two halves, and giving the possibility of alternately loading/unloading on one half while the laser head works on the other half.
The wall can slide to the side of the working volume recovering full accessibility.
The "split" option is not compatible with fiber laser source.

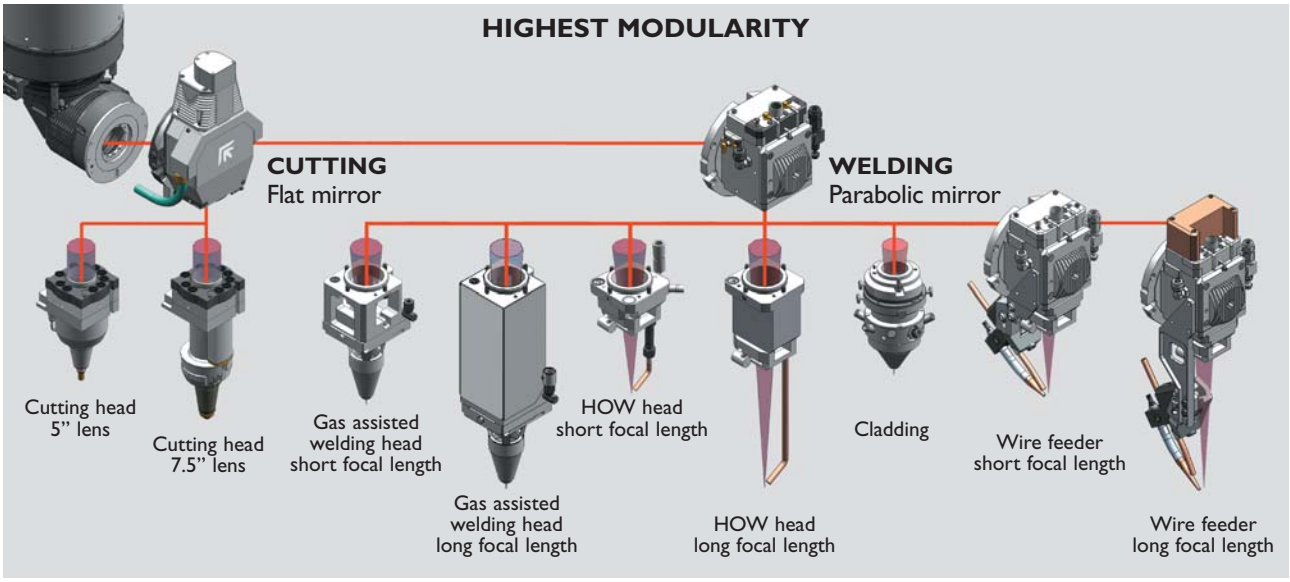
The "turntable" solution: one safety wall rotating with the table allows loading/unloading operations in total safety during part processing inside the machine.

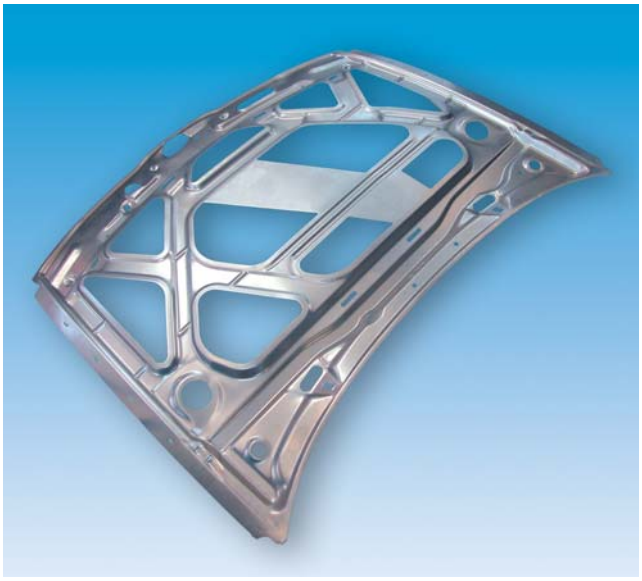
The "monofrontal" solution features two motorized shuttles that can be alternately or jointly loaded.

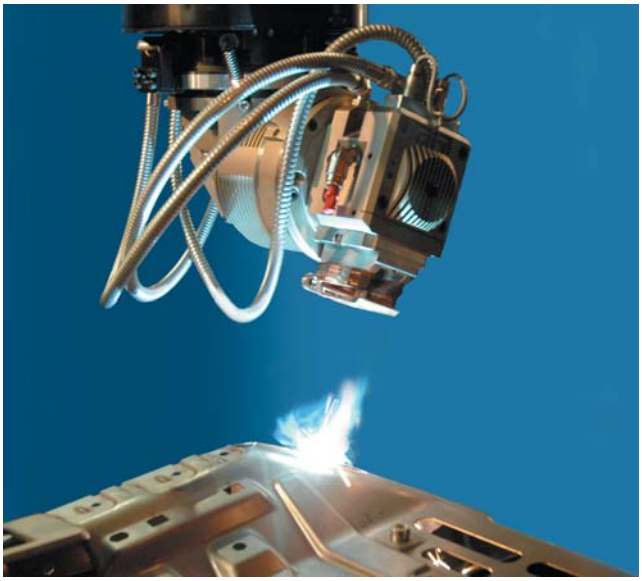
More complex solutions can be tailored to your needs, building upon the above mentioned standard components and adding to them various options as:

- tables for 3D components with quick fixtures repositioning interface;
- table for 2D parts;
- rotary axis for tube processing;
- high precision rotary table for cylindrically symmetric parts processing.

for a variety of applications







Applications

RAPIDO® features top class performances in every application field. Thanks to highly specialized solutions tailored to specific needs, it is very flexible, and conversion from one type of production to another is easy and fast.
A fast changing system of the head attachment allows cutting of higher thickness materials, welding with gas protection through coaxial nozzle or dedicated trailing shield, remote welding, cladding, etc.

A typical cutting application are automotive parts mainly in boron hot stamped steel but also in mild steel or aluminium. Common materials for aerospace parts such as titanium and NiCo alloys are also laser cut.

Welding heads are available both with coaxial nozzle for protection gas adduction or with the "HOW" (Hands-Off-Welding) remote welding solution.
A wire feeder or a cladding head are available to add material if required by the application.

A variety of materials can be welded as stainless or mild steel, certain types of aluminium or even titanium.

Profitable solutions

For the maximum flexibility

"Basic solution": ample standard cabin and two fixed tables ideal for top quality subcontract work.

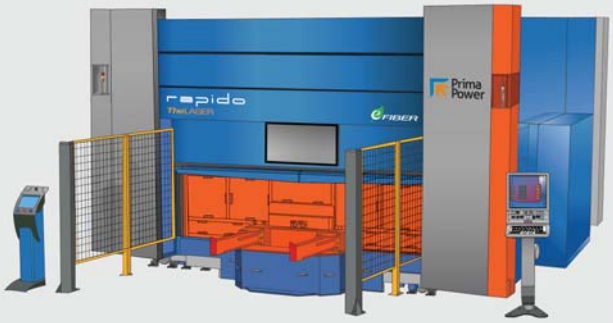
"Monofrontal solution": all the advantages of the basic solution and, instead of fixed tables, two highly repeatable motorized and independent shuttles (500 kg capacity each), for easier handling of workpieces and fixtures.

"Aerospace solution": for the typical needs of the aerospace industry; with high precision CNC controlled rotary table and large 2D cutting area with automatic pallet changer.

for every production needs

For the maximum productivity

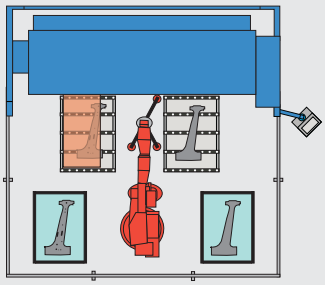
"Split cabin solution": a partition wall splits the working volume into two halves. While on one side the machine is producing, on the other side the operator loads and unloads the workpiece.
The wall can slide to the side of the working volume recovering full accessibility.



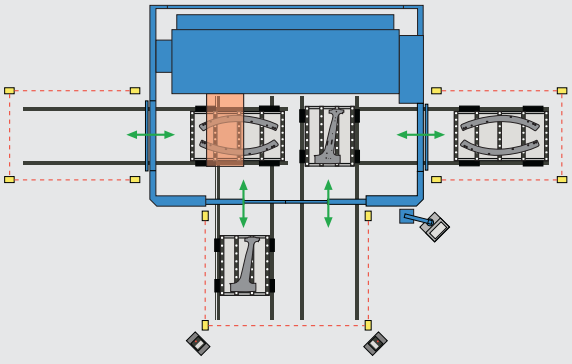
"Turntable solution": a turntable placed in front of the machine exchanges the pieces allowing the no idle time loading/unloading.
A partition divides the table area in two halves, so that while the machine is working inside the cabin, the operator may unload and reload the pieces on the external portion of the turntable.
The automatic scraps conveyor is available as an option.

Customizable solutions

The large working volume and high accessibility mean that there is virtually no limit to the workpiece handling configurations. The following are a few examples:



Robotized loading/unloading cell



Double frontal and side shuttles

24/7 production

Turn-key solutions

Thanks to its extensive experience in the sector, Prima Power can offer its Customers turn-key solutions, with total care and responsibility on production systems (machine/s, automation, part fixture integration).

Prima Power offers also support during the production start-up phases, both after machine delivery or whenever the need may occur.

Prima Power Services

Prima Power has a strong and efficient service network around the globe. The aim of our services is reaching maximum productivity and profit for our Customers.

The range of services offered is comprehensive, covering the entire life cycle of the machine: from consultancy to installation and training, from on-site to phone support and teleservice, from maintenance to product updates.

Our Tech Centers and Specialist Teams offer support for the choice of the right solution for the specific kind of production, and advice and instruction on technology, materials, cycle times optimization, automation and production flows, programming and CAD/CAM systems, etc.

Particular attention is paid to dedicated service contracts, granting maximum machine availability and highest productivity at all-in prices, particularly useful in case of intensive and 24/7 use of machines and systems.

Technical specifications

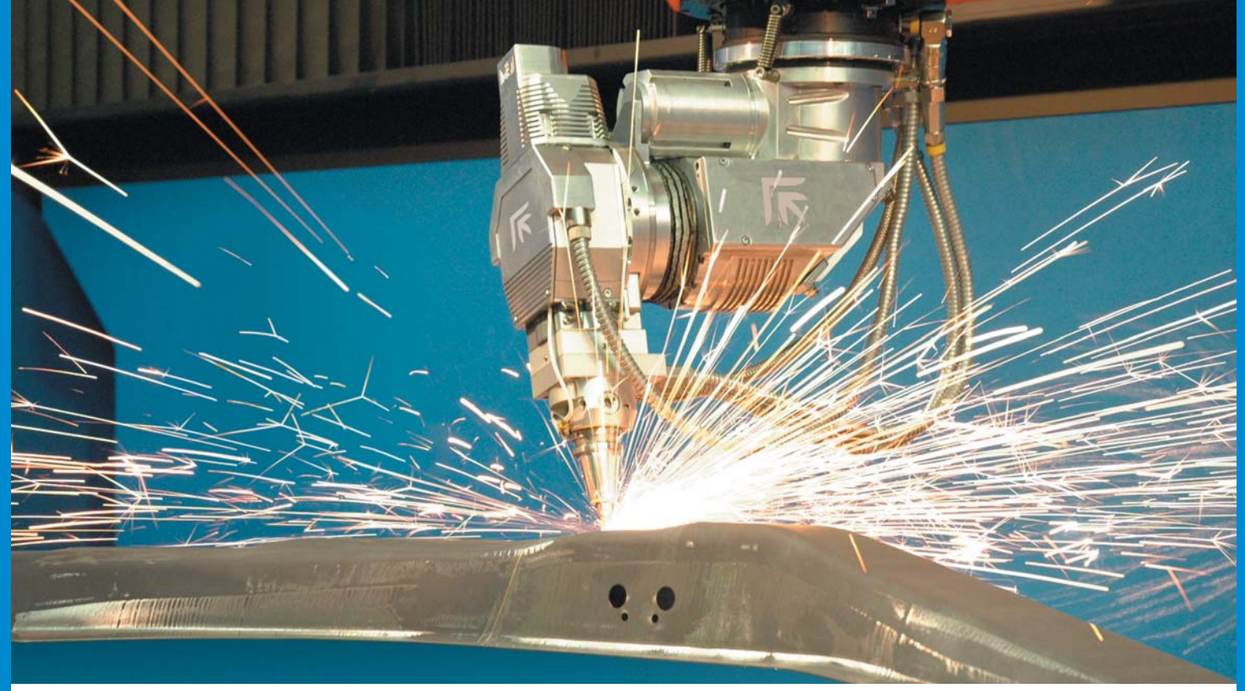
Axis strokes		**X** mm 4080	**Y** mm 1530	**Z** mm 765
Rotary axes	**A** **B**	360° continuous (without limitation) ± 135° continuous		
Adaptive axis (cutting head) **C**		± 10 mm		
Speed	**Trajectory** **X, Y, Z** **A, B**	175 m/min 100 m/min 1.5 rev/s		
Acceleration	**Trajectory** **X, Y, Z** **A, B** **C**	1.4 g 0.8 g 60 rad/s² (9.5 rev/s²) 4 g		
Linear axis resolution		0.001 mm		
Head axis resolution		0.00006°		
Accuracy (*) • according to VDI/DGQ 3441 standards • measurement length: complete stroke **X, Y, Z** **A, B** (*) the accuracy of the piece depends on its type, dimensions and pretreatment, as well as on the application conditions		Positioning accuracy (Pa): 0.03 mm 0.005°	Repeatability (Ps): 0.03 mm 0.005°	
Optional rotary axis (lathe): - minimum diameter - maximum diameter		20 mm 300 mm		
Maximum overall dimensions (protection cabin, electrical and CNC cabinets included)		**Length** mm 6950	**Width** mm 5650	**Height** mm 3750
Weight		18,700 kg		
Colours		Fixed parts: RAL 5015 - RAL 9006 Moving parts: RAL 2008		

CO_2 Laser Power (W)	**2500**	**4000**	**5000**
Laser consumption (kW)	25	31	38
Chiller consumption (kW)	11	18	22
M^2	2.2	2.4	2.4
Power density (kW/cm²)	$1x10^6$	$1.5x10^6$	$2x10^6$

Fiber Laser Power (W)	**2000**	**3000**
Laser consumption (kW)	8	12
Chiller consumption (kW)	5	6
M^2	6	6
Power Density (kW/cm²)	$3x10^7$	$4x10^7$

primapower.com

Prima Power



Prima Power

The Bend
The Combi
The Laser
The Punch
The System
The Software

optimo®
The laser excellence

Big, in every way

OPTIMO® is big from every point of view.

Its large working volume - greater than 11m³ - means that there is no limit to the size of workpiece that can be processed. The high levels of its performance allow high speed processing to be carried out with excellent quality and precision.

System flexibility and productivity are further enhanced by its high accessibility, which offers a large number of solutions for workpiece jigs or fixtures and handling. Prima Power's experience in the field of 3D laser machines is second to none, and this is reflected in OPTIMO®, a higher class, reliable production tool.

The rapid tool changing system and the variety of laser power available allow the widest range of cutting and welding applications.


GIS (Gas Insulated Switchgear)


Van bumper


Welding for nuclear industry


Wheel cover


Car wash tunnel


Car side

Many good reasons to use Optimo®

The profit

- Possibility to process very large workpieces without repositioning or to use more than one station simultaneously
- High dynamic performance and high precision throughout the whole working volume
- Rapid and simple application changeover (for example: from cutting to welding)
- Direct motor-driven focusing head: high precision, with no backlash or wear
- Fixed length, cylindrical, slim Z column, without bellows: the best of mechanical rigidity and maximum penetration
- Rigid, symmetrical and stable structure, designed for the workshop environment
- Rapid and simple installation: no need for structural foundations

The footprint

- High productivity combined with high energy efficiency
- Excellent working volume to floor area ratio
- Low operating costs and reduced maintenance
- Accessibility and freedom of machine configuration
- Flexibility: simple and immediate setup and changes of production
- Easy and smart use, ergonomic design

green means®

Superior, in every detail

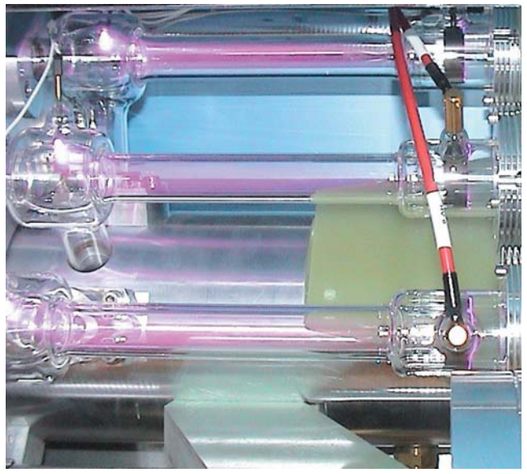
Machine

- Mobile optics: accuracy and speed are independent of the weight and size of components to be worked
- Compact design: laser and control system in a single unit
- Gantry architecture: accessibility, accurate movement of axes, rigidity and stability
- Main carriage with dual drive for bilateral positioning movement
- Carbon fiber Z column for an excellent structural rigidity

Laser

- Fast axial flow CO_2 lasers by Prima Electro: application flexibility, high reliability and low running costs, particularly suitable for frequent changes of production. Available with powers from 3 to 5 kW
- Diffusion-cooled CO_2 Slab lasers: excellent beam quality (k=0.95) which grants high speed cutting, especially on stainless steel, and deep penetration welding. Available with powers from 2.5 to 4 kW

Performance and profitability of different types of lasers depend on application: Prima Power experts will suggest the best solution for each specific case.



Numerical control

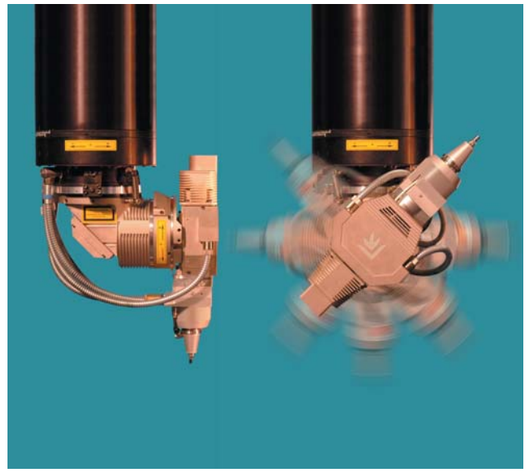
P20L numerical control by Prima Electro:

- User-friendly slim console with touch screen and trackball
- High computational power and powerful HMI, Windows® embedded
- Advanced algorithms for predictive trajectory control. Axes movement coordination by a patented system in case of redundant architecture
- TOB (Technology On Board) and TOBIA (Technology On Board Interface Application)

Easy and flexible use

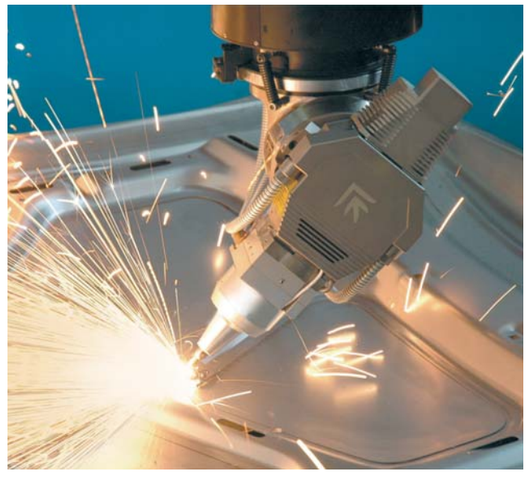
Smart programming

- User-friendly and powerful 3D and 2D CAD-CAM software that allows an easy and quick generation and testing of the entire cutting program starting from the mathematical models of the workpiece
- Graphic user interface for easy part-program optimization: no need of G-Code modifications, all editing is graphically performed
- Portable self-teach programming handbox, ergonomic and intuitive to use (large screen, graphic interface, joystick)



Shorter cycle times - Higher flexibility

- Predictive trajectory control: maximized speed according to desired accuracy
- LPM: remarkable reduction of piercing time
- FPC: production changes without optics setup
- Perfect Tool package: quick, easy and accurate head geometries calibration and beam-tip alignment



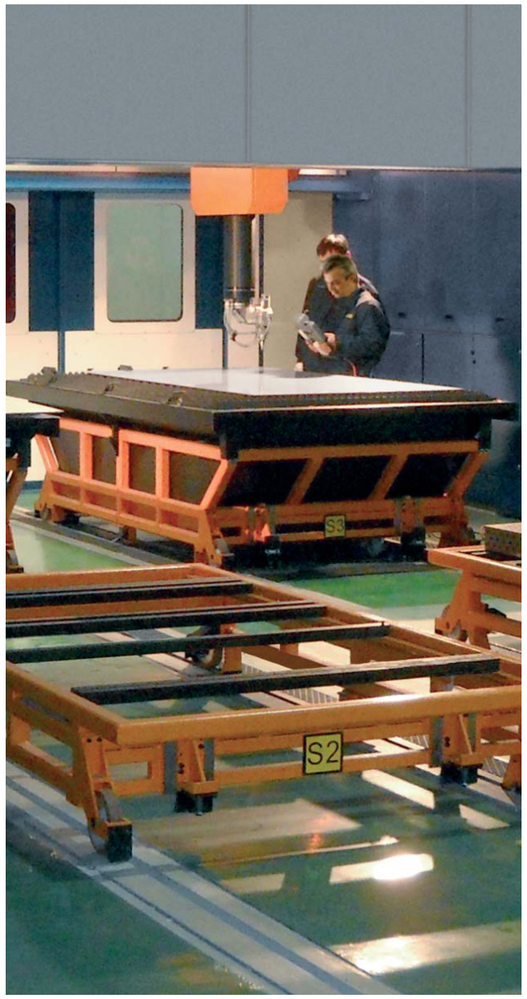
Focusing head

- Direct drives and transducers: high dynamics and accuracy, no backlash, reduced maintenance
- Minimum encumbrance and excellent penetration capacity
- Dedicated adaptive axis, with very high dynamics maintains workpiece surface stand-off distance
- A measuring machine within the cutting one: OPTIMO®'s cutting nozzle can be used as a measuring tool to speed up the setup time as well as to validate parts directly on the machine
- Double safety joint (SIPS): in case of collision, the nozzle and/or the whole head collapse. Quick and simple repositioning
- Modularity and application flexibility

Smart and flexible

Cabin

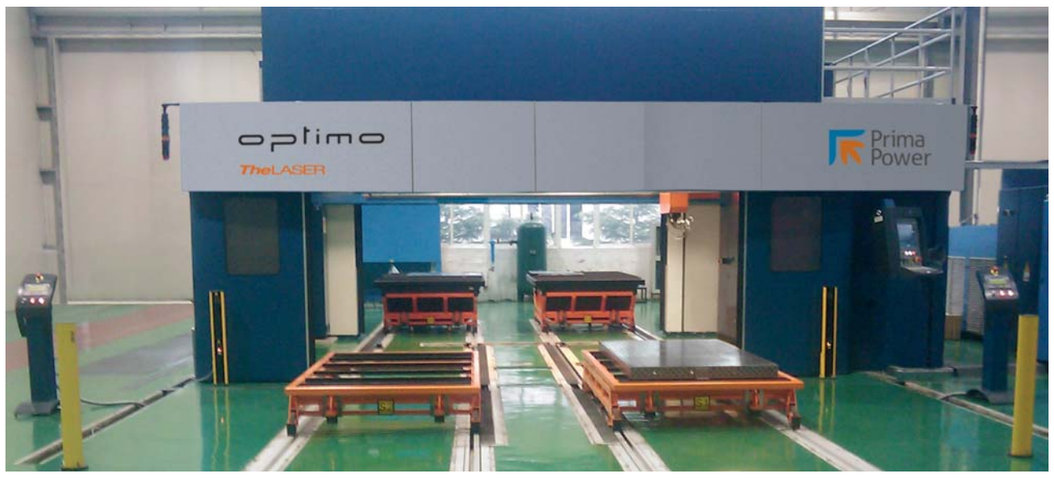
- Large, automatic telescopic doors for optimal accessibility which can be set to optimize swap-piece time
- Large windows with integral interlocks: excellent visibility and complete safety
- Equipped maintenance area to allow operations on optics and carriages in complete safety



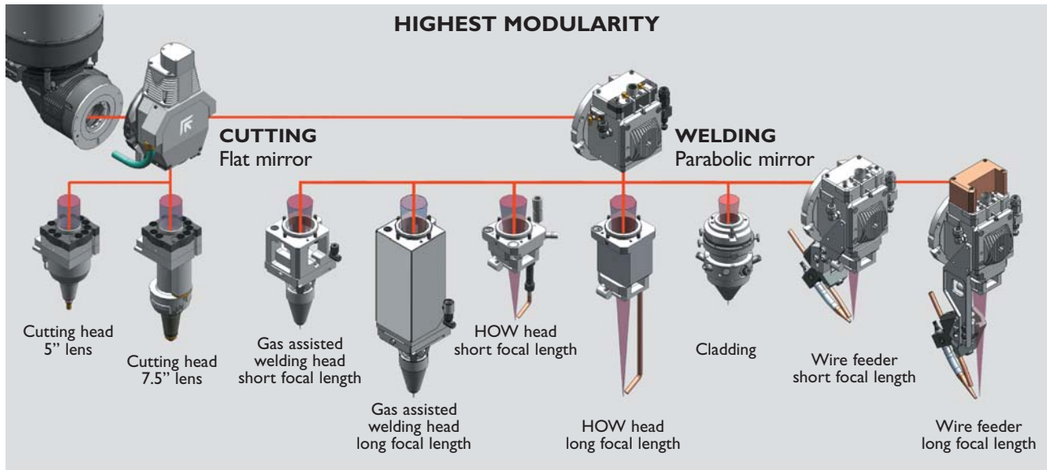
Automation: a variety of solutions

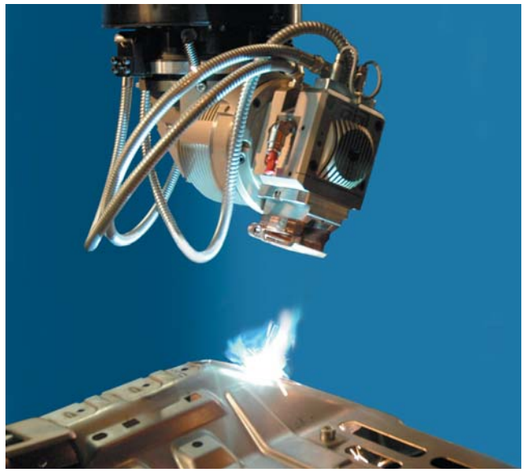
OPTIMO® can be equipped with different automation solutions, ranging from very simple to very complex ones, depending on the type of process, the quantity and size of the parts to be manufactured and the process duration for each part. Fume extraction is designed to allow maximum efficiency for all the proposed solutions.

- Starting from a large number of standard automation solutions both for 2D and 3D cutting, like Split Cabin, CN turntable, fixed and flying tables, it is possible to define the best material flow inside the working volume. In addition, it is also possible to dedicate a machine-specific side to perform different applications by designing an highly-customized system
- The OPTIMO® gantry architecture allows three totally independent entry sides. There is no limit to the possible automation solutions
- An R&D team of OPTIMO® experts suggests the best configuration for each process



for a variety of applications





Applications

- OPTIMO® features top class performance in every application field
- A fast-changing system of the head attachment allows switching from a process to another
- 7.5" lens for high thickness material
- Welding heads with coaxial nozzle for adduction of protection gas or with the "HOW" (Hands-Off-Welding) remote welding solution
- Wire feeder to add material if required by the application

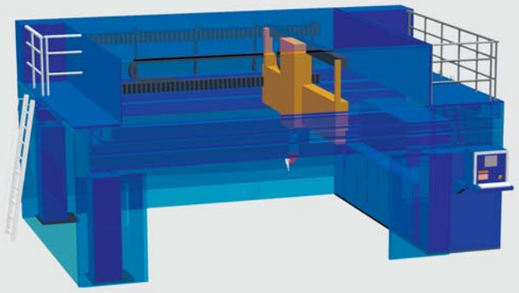
Prima Power Services

Prima Power has a strong and efficient service network around the globe.

- The range of services offered is comprehensive, to cover the entire life cycle of the machine: from consultancy to installation and training, from on-site to phone support and teleservice, from maintenance to product updates
- Our Tech Centers and specialist teams offer advice and instruction on technology, materials, cycle times optimization, programming and CAD/CAM systems, etc.
- All-in contracts, particularly useful in case of intensive and 24/7 use of machines and systems, provide maximum machine availability and productivity

Open space for multiple solutions

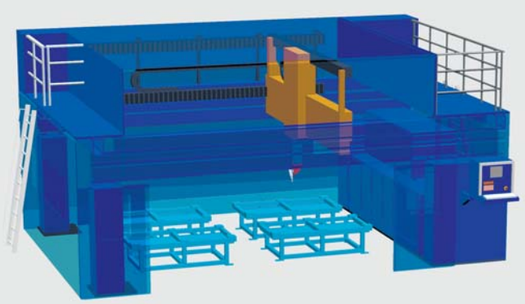
Standard solutions



Basic solution

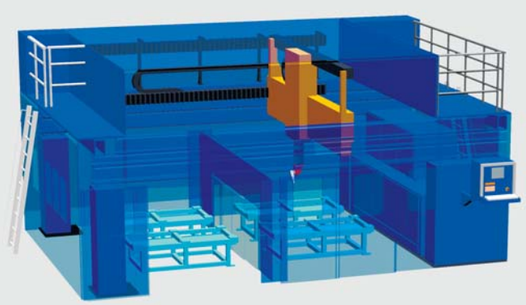
A single, large working area entirely dedicated to the workpieces and the jigs.

Complete cabin opening (4,700 mm): unlimited accessibility even for very large workpieces.



Worktables solution

A single, large working area with 4 worktables (1,000 x 2,000 mm each) for ease of movement around the workpieces and maximum space management flexibility.



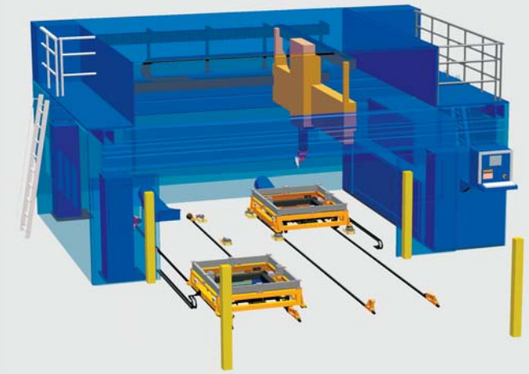
Split Cabin solution

Two working areas separated by a partition.

The cabin doors alternately open and close.

Masked time loading/unloading in complete safety.

The partition can be removed to restore the full working volume.



Single front solution

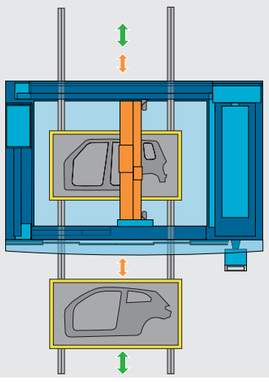
Two shuttles alternately enter and exit the working area.

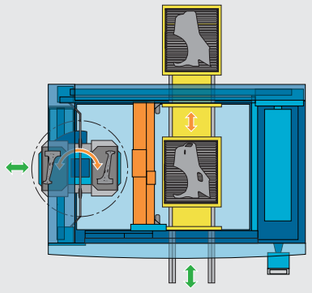
Masked time workpiece substitution.

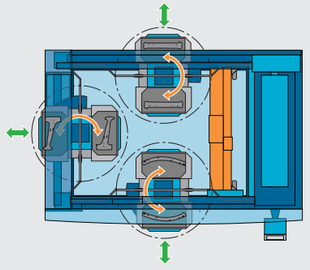
Split version also available for masked time shuttle exchange.

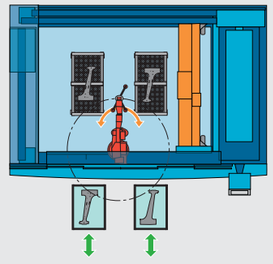
Numerous customizable solutions

The large working volume and high accessibility mean that there is virtually no limit to the workpiece handling configurations. The following are a few examples:

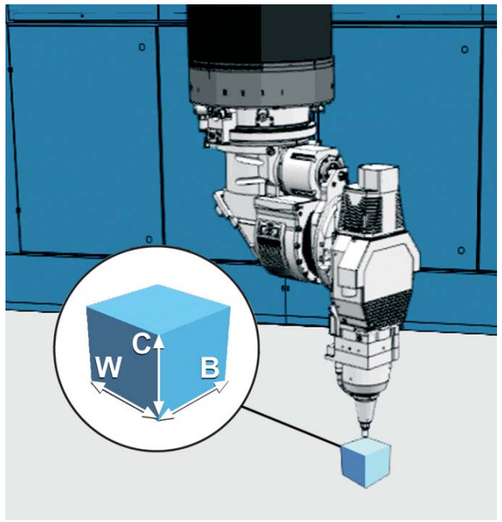








Optimo® Vivida



A substantial leap forward in productivity

The Vivida head is a true small machine within the large OPTIMO®.

OPTIMO®, the "main machine", moves and directs the laser tool in its wide working envelope.

The Vivida head, the "small machine", performs short and very fast movements (12 m/s²). To this purpose, it features an additional linear axis (W) that is coordinated with the B and C head axes to generate the Vivida's own working volume (20 x 20 x 20 mm).

Far from being a simple end-effector, Vivida shares the movements with OPTIMO®, according to their particular skills, thanks to the CNC and to its proprietary advanced algorithms.

The high dynamics movements are assigned to the small and light machine, and the stress on the main one is reduced, even when the highest performance is demanded.

The Olympic Torch is manufactured by OPTIMO® Vivida.

New horizons for 3D laser cutting

New applications for the large, fast and accurate OPTIMO® machine:

- Grids, filters and decorations on large, thin 3D components
- Mass production of large automotive parts
- Sound abatement panels drilling in the aerospace field
- "Quasi remote" laser welding in the mobility world
- No limits to the productive use of the laser, even for oversized and intricate parts

Car body bonnet, inner panel:
91 holes and slots, 4,990 mm external contour,
Cutting with CP4000 laser.

Cycle time comparison between OPTIMO® and OPTIMO® Vivida

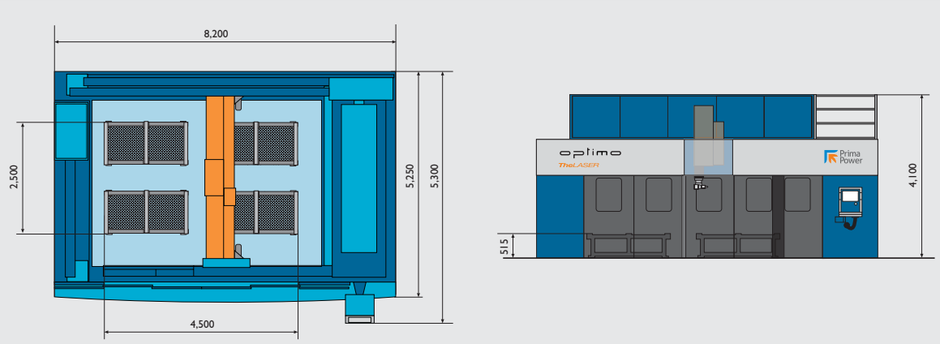
OPTIMO®		OPTIMO® Vivida
holes and slots		
3' 26"	**-28%**	**2' 28"**
external contour		
32"	**-15%**	**27"**
total		
3' 58"	**-27%**	**2' 55"**

Time savings with Vivida: -27%

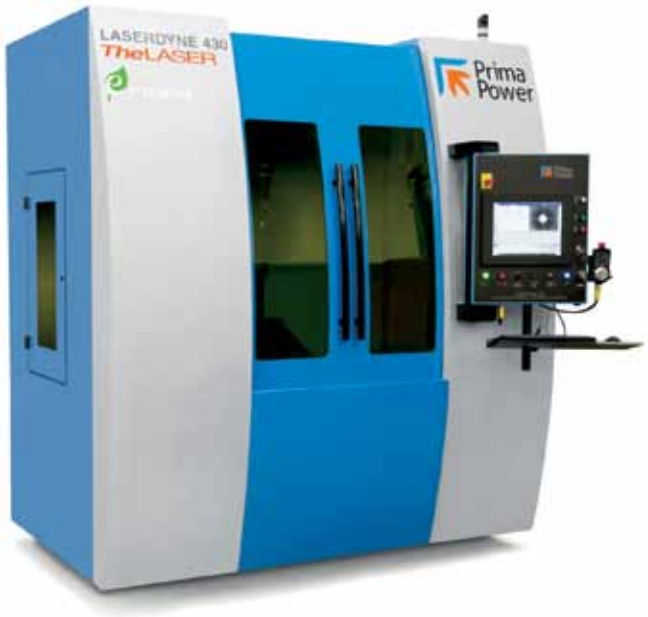
Technical specifications

	X	Y	Z
Linear axes	4,500 mm	2,500 mm	1,020 mm
Head axes			
A	360° continuous		
B	± 135°		
C	± 10 mm		
W (Vivida)	± 10 mm		
Speed			
Trajectory	85 m/min		
X, Y, Z	50 m/min		
A, B	1.5 rev/s		
Acceleration			
Trajectory	0.7 g		
Trajectory (with Vivida)	1.2 g		
X, Y, Z	0.4 g		
A, B	60 rad/s² (9.5 rev/s²)		
C	4 g		
Resolution			
X, Y, Z	0.001 mm		
A, B	0.00006°		
Precision (*) • according to VDI/DGQ 3441 standards	Positioning accuracy (Pa):		Repeatability (Ps):
X, Y, Z	0.06 mm		0.06 mm
X, Y, Z (with optical scales)	0.03 mm		0.03 mm
A, B	0.005°		0.005°
Maximum overall dimensions (excluding remotable CNC and ancillaries)	**Length** 8,200 mm	**Width** 5,300 mm	**Height** 4,100 mm
Weight (basic machine)	~18,700 kg		
Standard CO_2 laser power	2,500 W - 5,000 W		
Colours	Fixed parts: RAL 5015 - RAL 9006 Moving parts: RAL 2008		

(*) The accuracy of the piece depends on its type, size, pre-treatment and the conditions of application



Prima Power



LASERDYNE 430

The Premier Multi Axis Laser Processing System for
Drilling, Welding and Cutting Precision Components

LASERDYNE 430 – the flexible laser machining platform for a wide range of high-precision applications.

Available with BeamDirector® 3

Easy access from the front and both sides for tooling or automation

Class 1 laser safety enclosure

LASERDYNE System S94P console with pendant controller

Rugged machining center style platform

Basic System Specifications

Travel	*X axis*	585 mm (23.0 in)
	Y axis	408 mm (16.0 in)
	Z axis	508 mm (20.0 in)
	BeamDirector 3	900 degrees continuous motion in C axis 300 degrees continuous motion in D axis
Position speed	*X and Y axes*	15 m/min (600 in/min)
	Z axis	15 m/min (600 in/min)
	BeamDirector 3	0 - 90 rpm
Accuracy	*X, Y, Z axes*	12.5 µm (0.0005 inch) bi-directional
	BeamDirector 3	± 6 arcseconds
Resolution	*BeamDirector 3*	0.0005 degree
Repeatability	*X, Y, Z axes* *BeamDirector 3*	12.5 µm (0.0005 inch) bi-directional within 6 arcseconds
Minimum programmable increment		2.5 µm (0.0001 inch)
Table Load Capacity		250 kg (550 lb)

With over 30 years of experience and proven reliability, LASERDYNE delivers precision laser machining systems that are not just “integrated”, but developed from well-established standard platforms. Many technically advanced features have been incorporated into our LASERDYNE S94P laser process controller, providing both programmable flexibility and process capability.

- Automatic focus control™
- Surface mapping
- Integral CCTV setup and process monitor
- SPC data acquisition

Combined with our materials and applications expertise and wide range of laser sources available, LASERDYNE should be your first choice for “laser-ready” process development assistance! Internationally supported by a world-wide Prima Power network!

REASONS WHY YOU SHOULD DO BUSINESS WITH LASERDYNE

REASON 1 Improved processing accuracy with Automatic Focus Control™.

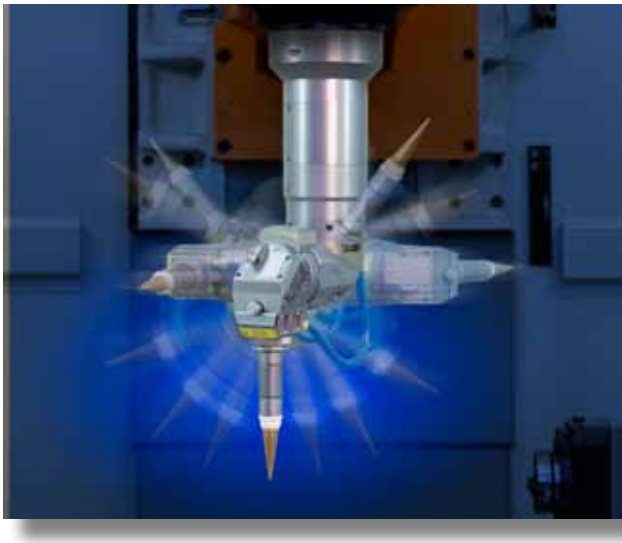
REASON 2 BeamDirector® 3 designed specifically for intricate inside and outside part cutting, drilling and welding with unique ability for very shallow angle drilling.

REASON 3 Specific attention to mechanical and optical alignment resulting in 5 axis accuracy and volumetric precision.

Additional Features:

- Designed from a vertical machining center platform, the 430 provides rugged, high-accuracy laser processing that will perform reliably and with excellent process capability.
- With time-proven LASERDYNE technology, standard features include highly-flexible welding and cutting performance, nozzle crash protection, and both online and offline programming ability.
- Dual design enables solid machine performance and powerful yet easy to learn user interface. The same interface as on LASERDYNE products.
- Massive tooling bed enables wide range of custom workholding for current and future applications.
- Air conditioned electronics ensures long-life and reliability in any factory environment.

Put LASERDYNE to the test: Challenge us with your difficult part



BeamDirector® 3 is the most advanced 3D beam delivery in the world. A full 5 axis motion utilizes the work envelope most efficiently.

Process both prototype and production parts easily on the same system.

Ideal for process validation of market requirements for the decerning Aersopace, Medical Device, Industrial, and Instrumentation applications.

Prima Power

LASERDYNE 795

BeamDirector® 3

The Premier Multi Axis Laser Processing System
for Drilling, Welding and Cutting Precision Components

Fully Integrated for the Most Demanding Laser Processing Applications Worldwide.

LASERDYNE 795 with BeamDirector® 3.
For over 30 years the LASERDYNE name has meant flexible, high performance, and world-class laser processing systems. The LASERDYNE 795 is the latest and most advanced multi axis laser system. This system is the product of a team of laser processing and system design engineers that are working closely with real world customer requirements. They have produced a system that makes laser processing a controlled, repeatable, cost effective manufacturing process.

Like all of the quality systems that preceeded the latest version of the 795, LASERDYNE SYSTEMS fulfill the wide range of needs, wants and manufacturing approaches of customers. The features and capabilities of this latest, 4th generation LASERDYNE system reflect the changing requirements and the maturing of laser processing technology. With complete integration of all laser, motion, and process sensing through the LASERDYNE S94P control, process quality and integrity is under the control of the system, not dependant on the operator.

To meet the changing needs of customers and provide access to the latest laser technology as it is developed, LASERDYNE keeps customers informed of process developments and new capabilities through a multi-faceted program. This includes a newsletter, the LASERDYNE Interface, ongoing access to the LASERDYNE Applications Engineering staff and equipment within the LASERDYNE Technology Center.

The next pages illustrate some of the reasons why the LASERDYNE 795 with BeamDirector® 3 is the industry standard.

LASERDYNE 795 with BeamDirector® 3

Travel	*X, Y, and Z*	XS 40 x 40 x 40 inches (1.0 x 1.0 x 1.0 m) XL 80 x 40 x 40 inches (2.0 x 1.0 x 1.0 m)
	BeamDirector®	900 degrees continuous motion in C axis 300 degrees continuous motion in D axis
Feedrate	*X-Y and Z*	0 – 800 inches/minute (0-20 m/minute)
	BeamDirector®	0 – 90 rpm
	Rotary Axis	Variety of options depending on application
Resolution	*X, Y, and Z*	0.0001 (0.0025 mm)
	BeamDirector®	0.0005 degree
Accuracy	*X, Y, and Z*	± 0.0004 inch (0.01 mm) per 20 inches of travel ± 0.0008 inch full travel
	BeamDirector®	± 6 arcseconds
Repeatability	*Linear X, Y and Z*	within 0.0008 inch (0.02 mm) full system travel
	BeamDirector®	within 6 arcseconds
	Rotary Axis	depending on choice of option

REASON #1

LASERDYNE 795...Turnkey Systems.

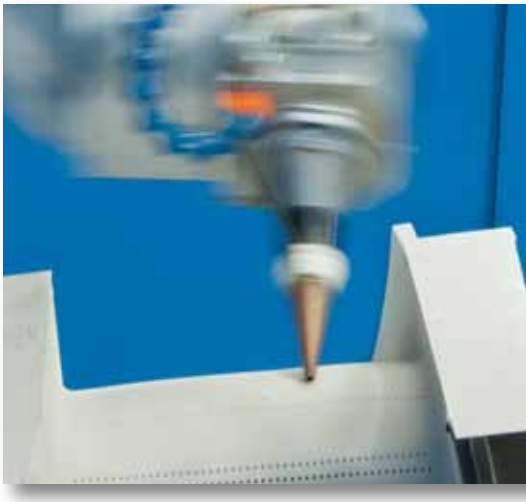
When you choose a PRIMA NORTH AMERICA CO_2 or solid state laser you will be processing with a laser developed by PRIMA North America engineers, the most experienced in the laser industry.

Cooperation between LASERDYNE SYSTEMS and CONVERGENT LASERS engineers that led to the design of the CL series of Nd:YAG lasers is one example of the benefits of vertical integration within the PRIMA Group.

LASERDYNE customers benefit from continuous innovation that has lead to system features and capabilities which address changing requirements, in designs of parts, challenging new materials, or stricter quality requirements.

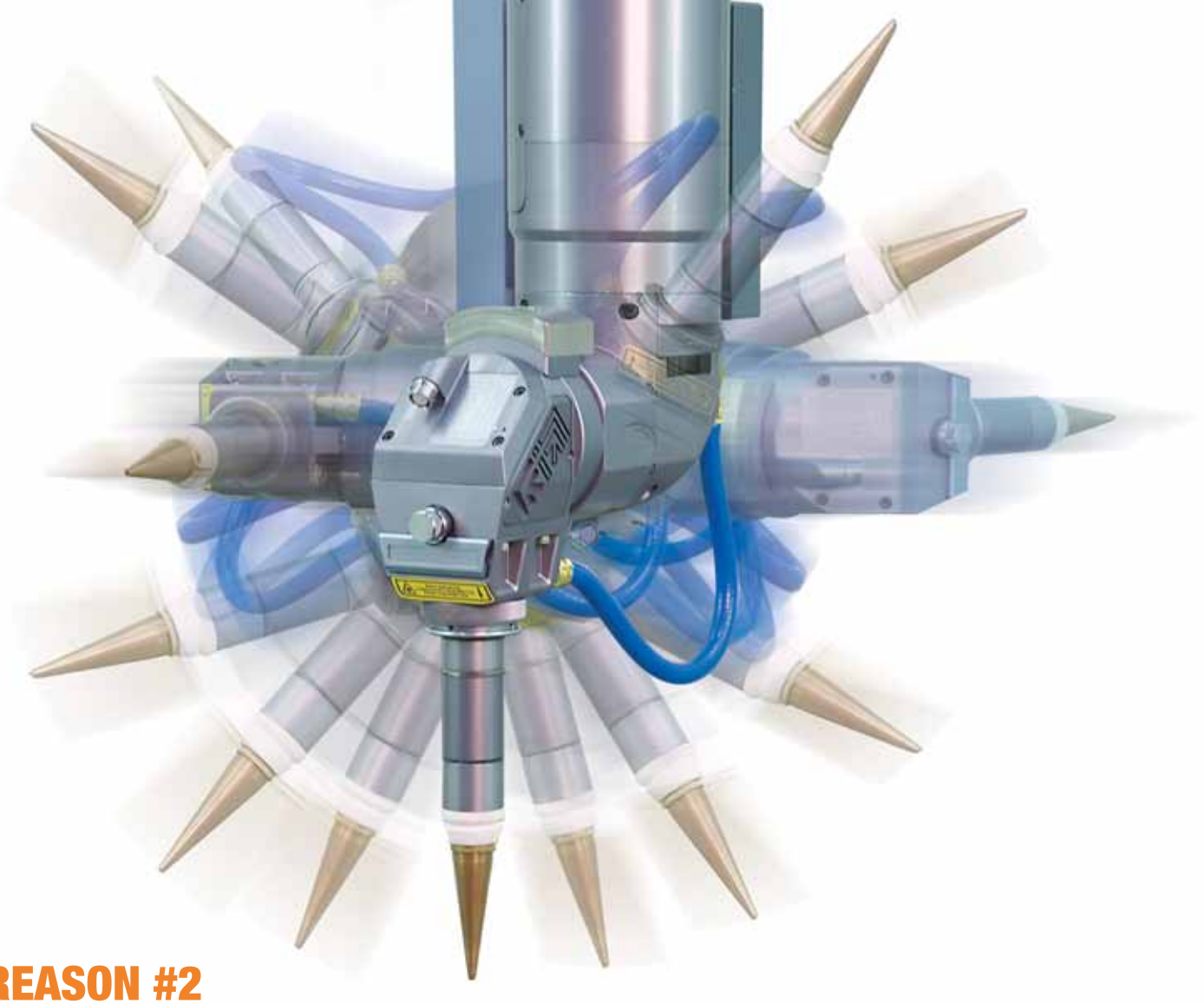
The LASERDYNE 795 is available with other laser sources such as fiber lasers and optional automation equipment. LASERDYNE SYSTEMS understands that over the life of their products, the initial purchase price is far outweighed by the productivity of that system and its payback.You can be assured LASERDYNE will recommend the best choice of system and laser for your applications and long-term benefit.

LASERDYNE SYSTEMS patented OFC mapping a TBC part.



A LASERDYNE system with a robot for part loading and unattended processing. An example of LASERDYNE SYSTEMS commitment to turnkey processing.

With seven Laserdyne multi-axis laser systems already in house, Ace Precision recently added the two new 795XL systems to process complex parts needed for a military vehicle project. "This is how we handle major projects and use our broad range of precision processes," reports Mr. Magedanz. "It gives us the advantage of faster turnaround because we are using the very latest, high-speed laser systems with the highest repeatable quality level established during the prototype stages of the project."



REASON #2

LASERDYNE SYSTEMS 3rd Generation BeamDirector®. Fastest, Most Accurate, and Most Versatile 3D Beam Delivery.

The third generation of BeamDirector® maintains the features that have set LASERDYNE systems apart and adds new features to make laser processing even more productive, flexible, and accurate. Improved design and full 5-axis laser beam motion allows the most efficient use of the work envelope. This enables processing at complex angles on parts much larger than systems that require workpiece positioning or rely on one axis of beam positioning and a rotary table.

LASERDYNE systems are recognized for their flexibility in accessing hard-to-reach part locations in a single setup. The latest BeamDirector® provides improved access to difficult to reach locations. The "compact" version used on Nd:YAG applications allows processing parts along the full 39 inches (1 meter) travel of the Z-axis at angles as shallow as 10° to the surface as well as complex shallow compound angles. The CO_2 and fiber laser version provides for laser beam diameters, up to 50mm, for high power cutting and welding applications.

All BeamDirector® models feature unmatched crash protection supported by a ***5 years unlimited hours warranty*** covering crash related damage. Processing at 60° above horizontal, direct drive motion where useful, optical encoder feedback, lens and coverslide drawers for quick accurate changeover, and a full line of focusing lens and nozzle assemblies address whatever applications that you have now or in the future.

"Our LASERDYNE 790 BeamDirector systems are the keys to doing this work successfully," reports Mr. Tran. "These systems are often the same models used by OEM's to make the parts originally so there are both hardware and software compatibility which helps facilitate the refurbishing process.

Ask yourself the following questions:

1. Can you process holes at critical shallow angles?
2. Will you be able to drill holes at complex compound angles?
3. What is the largest diameter part that can be processed on the system?
4. How do you process TBC parts?

Your challenge is to visit LASERDYNE SYSTEMS, see your part processed on a LASERDYNE SYSTEM, and learn what is critical for your success.

REASON #3

Flexibility...Unmatched With a LASERDYNE SYSTEM.

The LASERDYNE 795 is a true thoroughbred system, designed for maximum performance and flexibility. It is not a collection of existing parts used for milling machines coupled with critical laser components from 3rd party vendors. Rather, it is a carefully engineered and built system created by a engineering design team with over 30 years experience in laser processing.

The LASERDYNE 795 motion system provides users with unmatched flexibility for laser processing. Combining the experience from past LASERDYNE system designs and developments in materials, electronics and sensing technology has resulted in a system that is without equal. Simply the most versatile processing platform available today. Driven by real world customer requirements, from the worldwide base of LASERDYNE SYSTEMS users, the system guarantees access to the most difficult challenges whether they are land based or aerospace turbine components.

According to Gary Loringer, head of laser processing for Turbo Combustor Technology, the LASERDYNE systems were purchased primarily for overall processing versatility. "The addition of the LASERDYNE system, with its increased intelligence and new features, will help increase our capacity for laser drilling and productivity," reported Loringer.

High speed drilling on the fly with a CL50k Nd:YAG laser using LASERDYNE exclusive OFC (Optical Focus Control), BTD (BreakThrough Detection), and CylPerf programming at normal, minor, shallow, and compound angles.

REASON #4

Real Time Processing Power.

Integrated High Speed Real Time Control.
LASERDYNE engineers and customers know the most important element of productivity is the ability to produce parts correctly without scrap. The System 94P Laser Process Controller continues an impressive history of providing laser system users with unique control feature tools. The new LASERDYNE SYSTEM controller features an easy to use touch screen, a dual operating system (Linux for machine operations and Windows for operator interface), and a full complement of LASERDYNE exclusive software including FlowComp® a new industry standard.

A partial list of LASERDYNE SYSTEMS exclusive System 94P features and benefits include:

LASERDYNE 795 features allowed a major aerospace turbine manufacturer to maintain ± 2% airflow variation on a new generation of parts where ± 10% had been the norm.

See these features demonstrated at LASERDYNE SYSTEMS in the Technology Center and learn how this controller is helping users experience a 2X increase in output.

"Customers really appreciate the fast turnaround," reports Steve Leitner. "We have a five axis programming station that allows us to design tools and then program the LASERDYNE systems to operate at their full potential. We have many processes and techniques that allow us to be successful with the most difficult parts. That is where our specialty lies, with the complex five axis laser process that few companies have the experience to accomplish."

Feature	Application Benefit
OFC® – Optical Focus Control	Accurate beam focus on ceramic / nonmetal surfaces.
CylPerf® Hole drilling program creation	Fast and easy to understand programming of complicated hole drilling patterns
BTD® – BreakThrough Detection	BreakThrough Detection when Nd:YAG drilling
HDC® – Hole Diameter Compensation	Allows direct offset adjustment of hole sizes drilled with the CL50k laser.
FlowComp® – Airflow control	Correct airflow variation directly from a turn-key airflow bench.
SPC Data Acquisition	Complies system and process data documenting that the process is under control. Used for NADCAP certification.
Shaped Hole software	Consistent and easier programming of this new challenge to manufacturing.

REASON #5

Robust Features That Really Matter!

Throughput is only partly influenced by axis speed. You must also consider how easy it is to keep your system operating to specification.

LASERDYNE SYSTEMS, with the 795 System, continues a tradition of having the most complete package of product features, accessories and service support of any laser system manufacturer worldwide.

Critically compare the features that LASERDYNE has built into the 795 for ease of maintenance and maximum uptime. Start with the diagnostic package on the S94P controller. Continue with the automated setup features that insure consistent and accurate operation of the system with minimum operator influence.

The LASERDYNE 795 has added new features to the system that insure that operation of the system is consistent regardless of operator skill levels and customers location. As an example, the BeamDirector® 3 features quick change cover slide and focusing optics that minimize operator error.

Also important, LASERDYNE SYSTEMS provides training aides and classes for all system users. This includes the exclusive S94P simulated controller which can be added to a users PC to allow students to gain familiarity with the controller and programming without taking valuable system time.

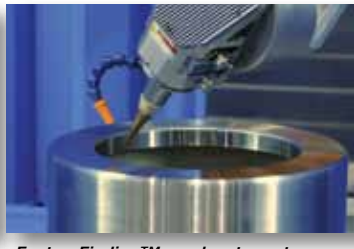
LASERDYNE SYSTEMS also provides an easy to use ***Parts Finder*** and complete system manuals on CD for your maintenance needs as well as classes for your technicians on maintaining the system, controller, and laser.

See these features demonstrated at LASERDYNE SYSTEMS in the Technology Center and learn how this controller is helping users experience a 2X increase in output.

Laserdyne exclusive crash protection prevents system damage.

Quick change lens and cover slide drawers allow an operator to make foolproof changes in seconds.

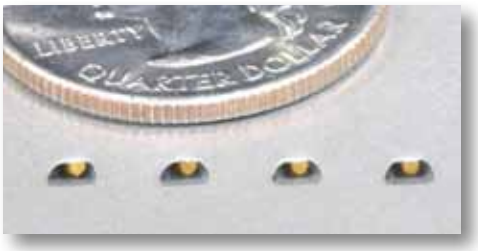
AutoAlignment™ routine uses the system control and AFC™ feature to create critical and accurate lens offsets.



FeatureFinding™ can locate part features automatically from within a program.

Custom nozzle assemblies available for special applications.

Fast - adjustment free mirror changes.



See what LASERDYNE SYSTEMS has to offer for shaped hole processing. Software and hardware features that guarantee consistency in processing.

Prima Power

The Bend
The Combi
The Laser
The Punch
The System
The Software

Punch Genius
– new-generation turret punch press

Punch Genius
– new-generation turret punch press

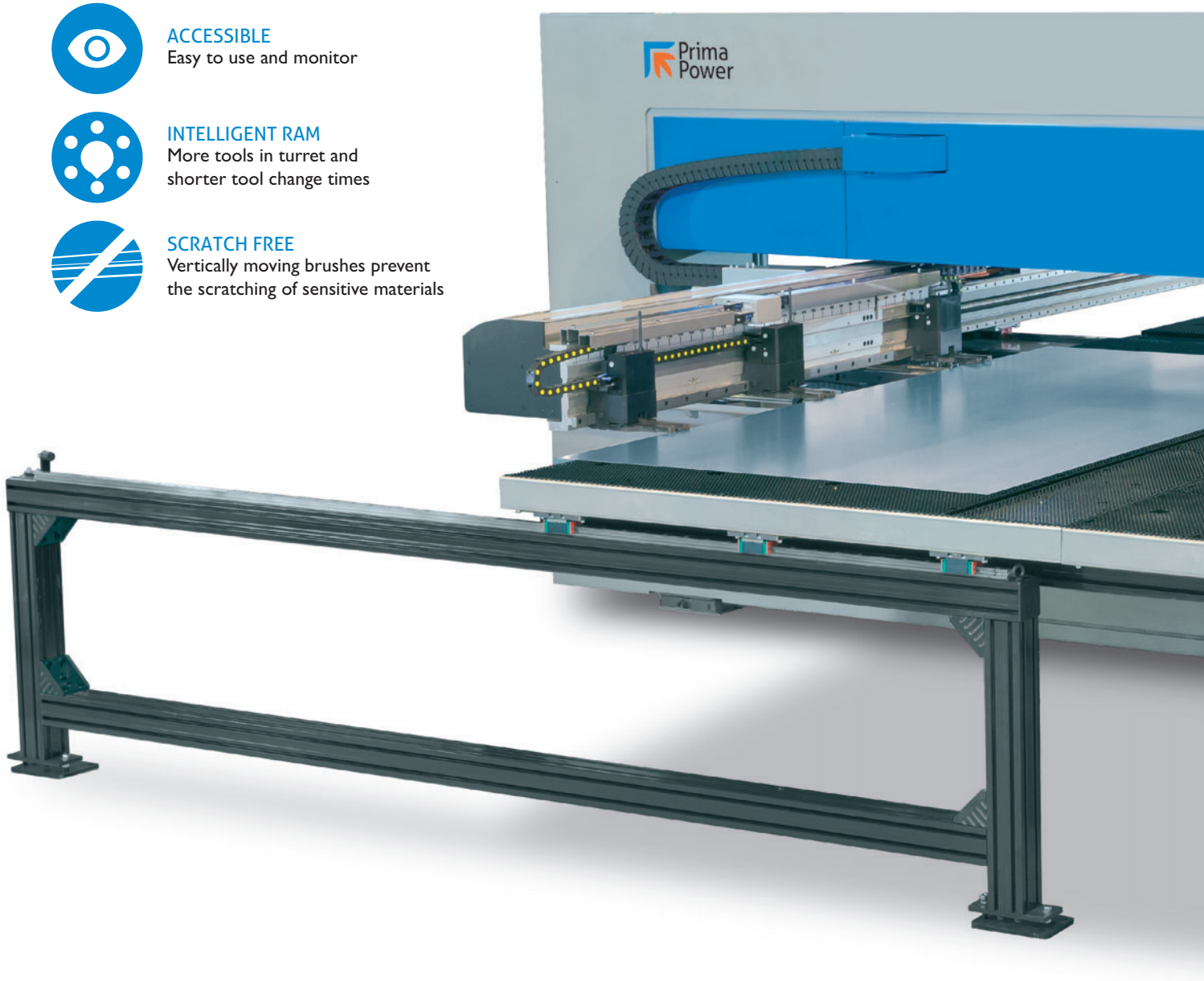
Prima Power has gathered experience in the development of turret punch presses since early 1980's, and while modern solutions are very different and the level much has, the targets have remained constant: always more ease of operation and higher productivity.

A modern turret punch press uses numerically controlled, servo-electric axes, which provides outstanding energy efficiency, low maintenance requirement and a high speed of operation. The cornerstones of its productivity include large tool capacity, the wide range of tools available and easy and fast set-up change. Forming and other auxiliary work stages, and ease of use are further factors reducing the manufacturing cost per component thus making the turret punch press a productive and competitive manufacturing solution.

ACCESSIBLE
Easy to use and monitor

INTELLIGENT RAM
More tools in turret and
shorter tool change times

SCRATCH FREE
Vertically moving brushes prevent
the scratching of sensitive materials



The Genius philosophy

Prima Power is bold enough to name the new machine series Genius because it is extensively based on our customers' experience and wishes. We wanted to fulfill these expectations with Punch Genius, a compact machine with a small footprint, offering productivity, operation convenience and compatibility with a number of automation solutions.

Two performance levels

The new Genius series has models on two complementary performance levels. ***Pure*** meets all the targets set for an attractively priced, yet efficient production machine; ***Dynamic*** offers the best productivity and performance in the market. Both models come with the latest features and can be equipped with the whole range of options.

Safety equipment is not shown in the illustrations

Accessible

Genius is operated with a modern control unit and its touch screen panel. Management of machine set-up and work queues is easy with the Tulus® user interface. The NC Express™ programming system and Tulus® work in perfect combination, provide comprehensive reports on machine and production status, and can be linked to the factory ERP system when required. Special attention has been paid to ergonomics and user friendliness of the control unit.

A new bar code reader can be used to choose programs for the machine direct from a bar code on the work order.

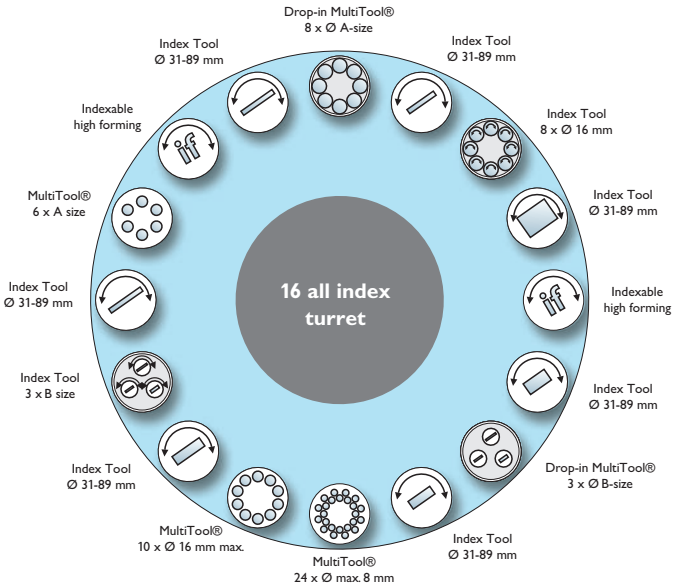
To make the operator's work easier, a new Android-based Tulus® MUPS application has been developed. It provides instructions for tool set-ups and other operation tasks.

Manual loading and unloading is facilitated by a movable table top which can be locked in different positions. Thus even the smallest sheets can be handled close to the operator. The loading of heavy sheets is made easy with vertically moving sheet supports.

Machine tables have been redesigned and equipped with more dense brushes, which together with the more solid table frame enable handling of sheets up to 250 kg in weight.

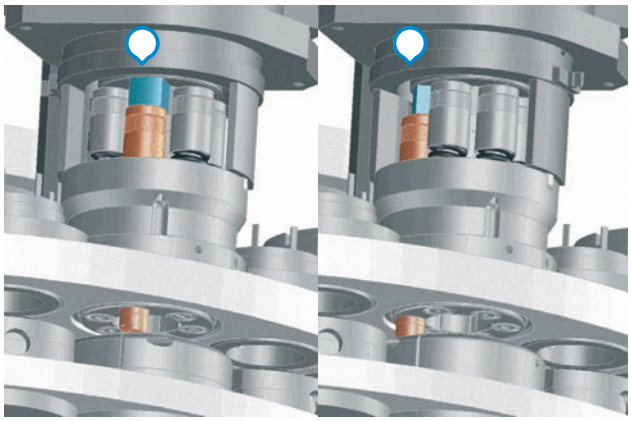
Clamp position is programmable for maximum sheet utilization and the position is changed automatically with the PCS function.

Genius can be equipped with three clamps, which can be moved automatically and individually to a new position during program run to maximize sheet utilization without repositioning.



Tooling can be flexibly selected as required by the application. Up to 384 standard or 128 index tools can be simultaneously available in the turret. More value can be added to the end product by using special tools such as tapping, bending, marking and forming tools. 16 and 20 hole turrets are available.

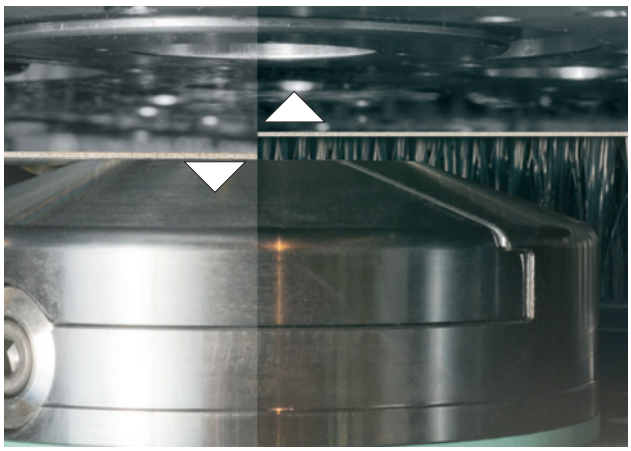
The set-up of all punching, forming and special tools is easy using the graphical tool library of the Tulus® operating system. Automatic tool lubrication system and vacuum assisted scrap removal are available as options.



Intelligent ram

A new option is the Intelligent Ram which shortens tool change time and increases the number of tools in turret and especially that of index tools

Up to 300 kN servo-electric punching force can be selected for the ram. Automatic overload protection and central lubrication ensure dependable machine operation.



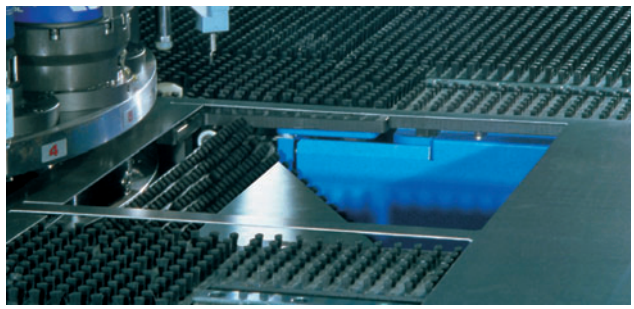
Scratch free

A new feature is having moving brushes also in front and inside of the turret, which prevents effectively the scratching of sensitive materials. The movement is activated by the program when needed.

Further options include the servo operated tapping unit TU6, automatic labelling device and Inkjet marking device.

The high-precision, servo-electric, indexable upforming cylinder provides 200 kN of forming power for speedy making of even high and complicated forms.

The work chute for punched components is sized 500 mm x 500 mm. Component removal is assisted by a new air blow unit. Options that can be added after the work chute are component identification system, component conveyor and sorting unit SU6.



Flexible automation

Automation equipment

SU sorting unit for small components

Compact Express loading and unloading device

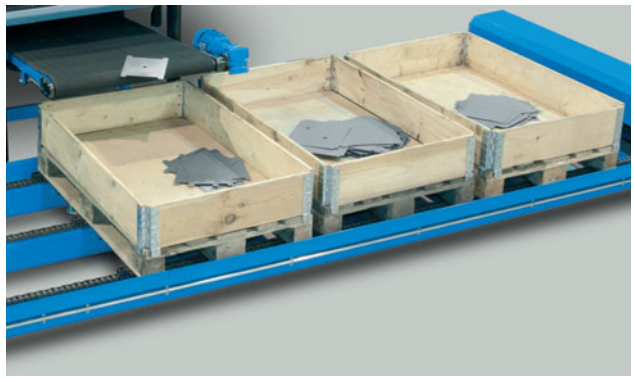
LST loading and stacking system; can be integrated with COMBO and Night Train storage systems

Loading and unloading can be automated with Compact Express equipment. New features include scratch-free sheet escort during unloading and remote control of the door. Moving upper frame beam and optimal placement of the safety equipment reset button are convenient when loading or unloading using a forklift.

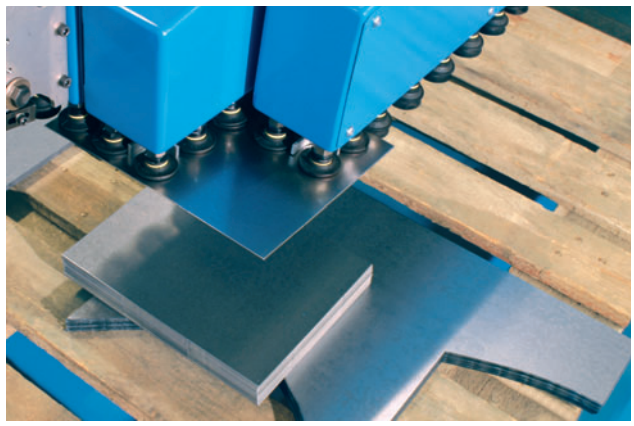
Sorting unit SU6 is a device that moves three EUR pallets with a chain construction. EUR pallet can have collars or it is possible to use with boxes.

The unit is used to sort parts coming from the work chute of the machine directly to pallets. SU is a perfect low-cost solution for small part sorting automation.

Sorting unit SU for punched parts can have up to three addresses.



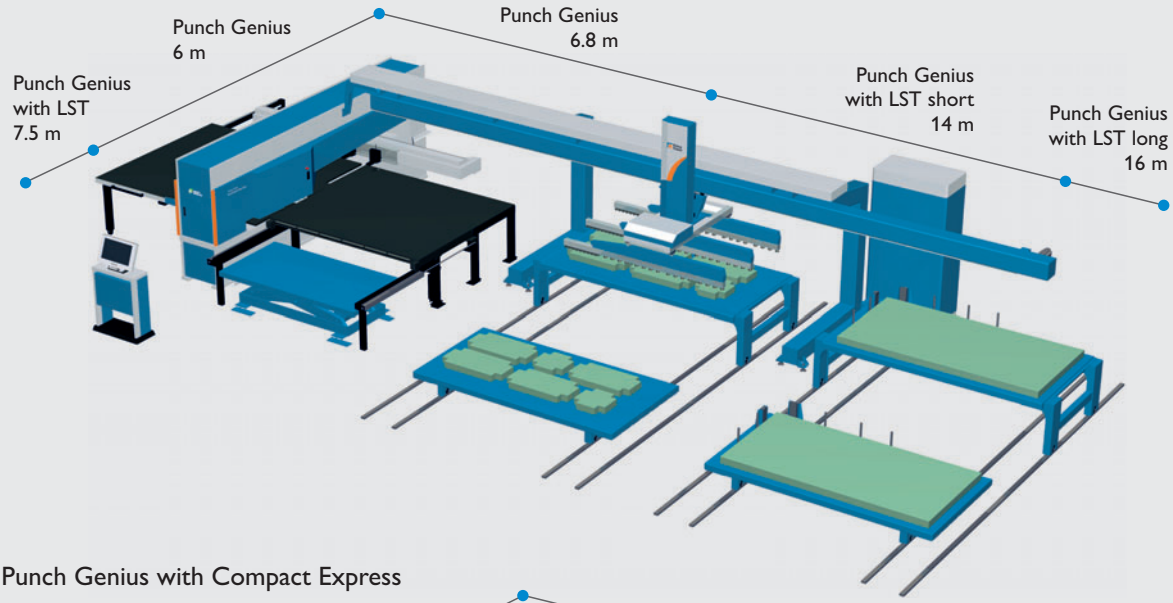
LST loading and stacking system can be chosen for automatic loading, component picking and stacking to programmed coordinates in the palletizing area.



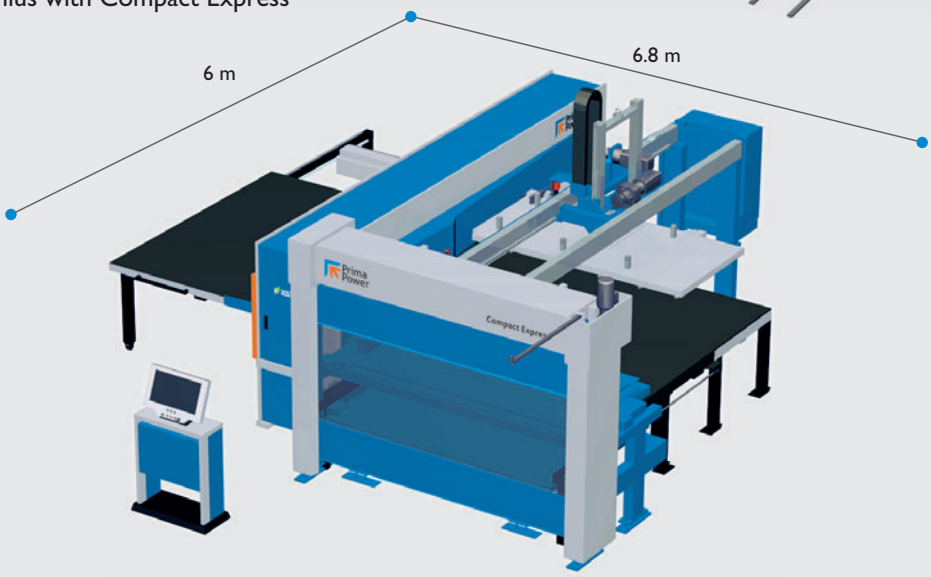
Technical specifications

Approximate main dimensions without safety systems

Punch Genius
Punch Genius with LST short
Punch Genius with LST long



Punch Genius with Compact Express



	Max. sheet size	X movement	Table height
PG1225	2,500 mm x 1,250 mm	2,500 mm	935 mm
PG1530	3,000 mm x 1,500 mm	2,500 mm	935 mm

	PG Pure	**PG Dynamic**
Punching force	170, 200 or 230 kN	200 or 300 kN
Punching speed	700 1/min	1.000 1/min
Axis positioning speed	108 m/min	127 m/min
Index rotation speed	180 r/min	250 r/min
Max. no. of tools / index tools	16 hole turret 280/80, 20 hole turret 384/128	
Max. sheet thickness	8 mm	
Max. sheet weight	250 kg	
Average power consumption	4 kW	

Prima Power

The Bend
The Combi
The Laser
The Punch
The System
The Software

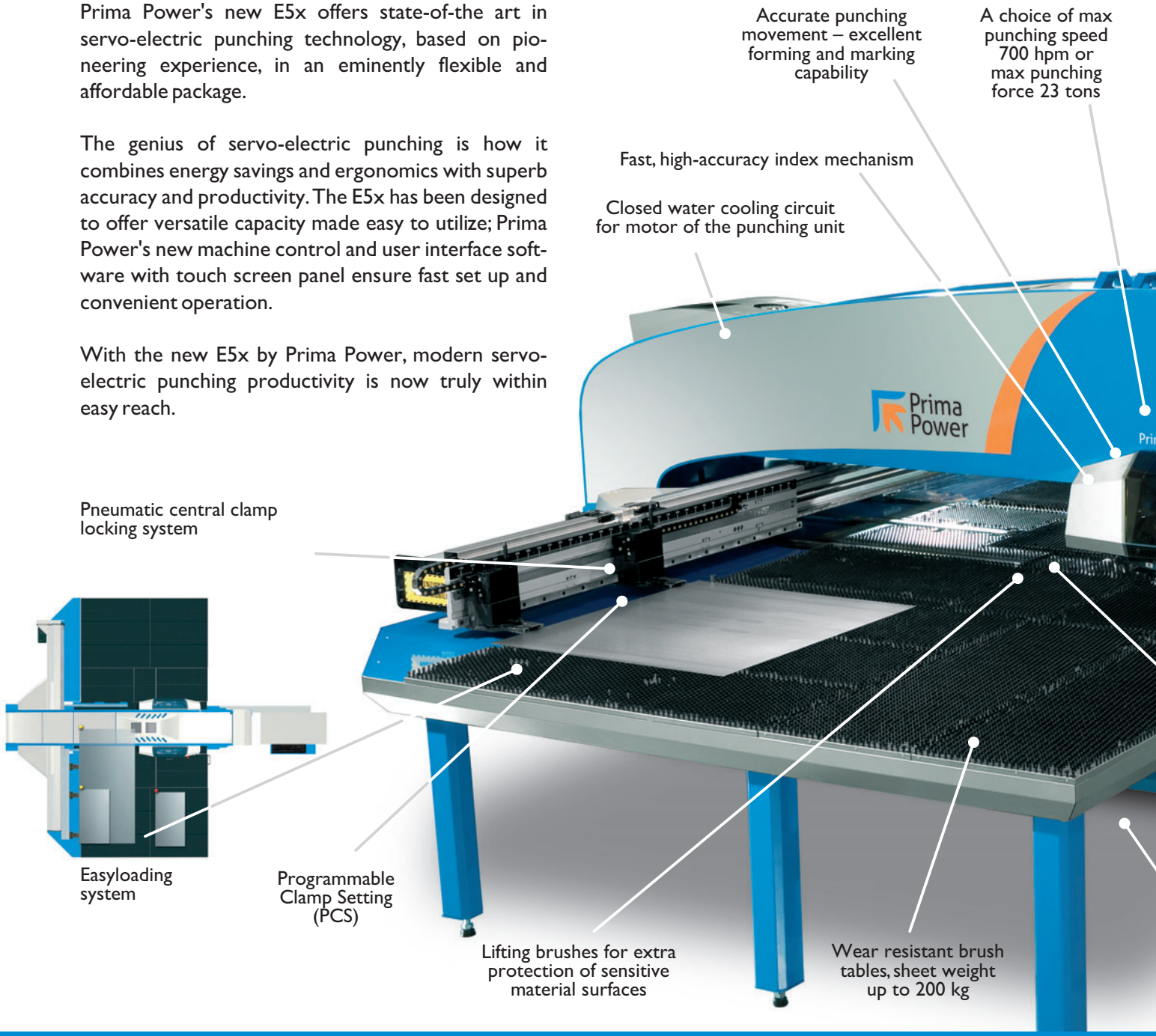
Servo-electric
Turret punch press E5x

Servo electric turret punch press E5x

Prima Power's new E5x offers state-of-the art in servo-electric punching technology, based on pioneering experience, in an eminently flexible and affordable package.

The genius of servo-electric punching is how it combines energy savings and ergonomics with superb accuracy and productivity. The E5x has been designed to offer versatile capacity made easy to utilize; Prima Power's new machine control and user interface software with touch screen panel ensure fast set up and convenient operation.

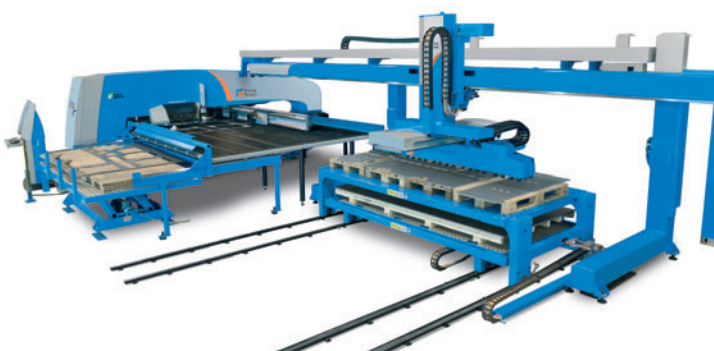
With the new E5x by Prima Power, modern servo-electric punching productivity is now truly within easy reach.



Flexible automation

Compact Express is a fully automated material handling device. The placing of the automatic loading and unloading unit makes it possible to use several combinations of automatic and manual loading and unloading cycles. The manual loading table is free for use for manual operation.

Component handling of the E5x can be automated with the **LST system**, which picks components from the machine and stacks them into programmed positions in the palletizing area. Further, the LST features an automatic skeleton removal function, and the entire working cycle of the machine becomes automatic. The LST can be equipped with several additional tables and integrated with the COMBO and Night Train automation systems.



green means

What does Green mean?

Green means a win-win for you and sustainable development.

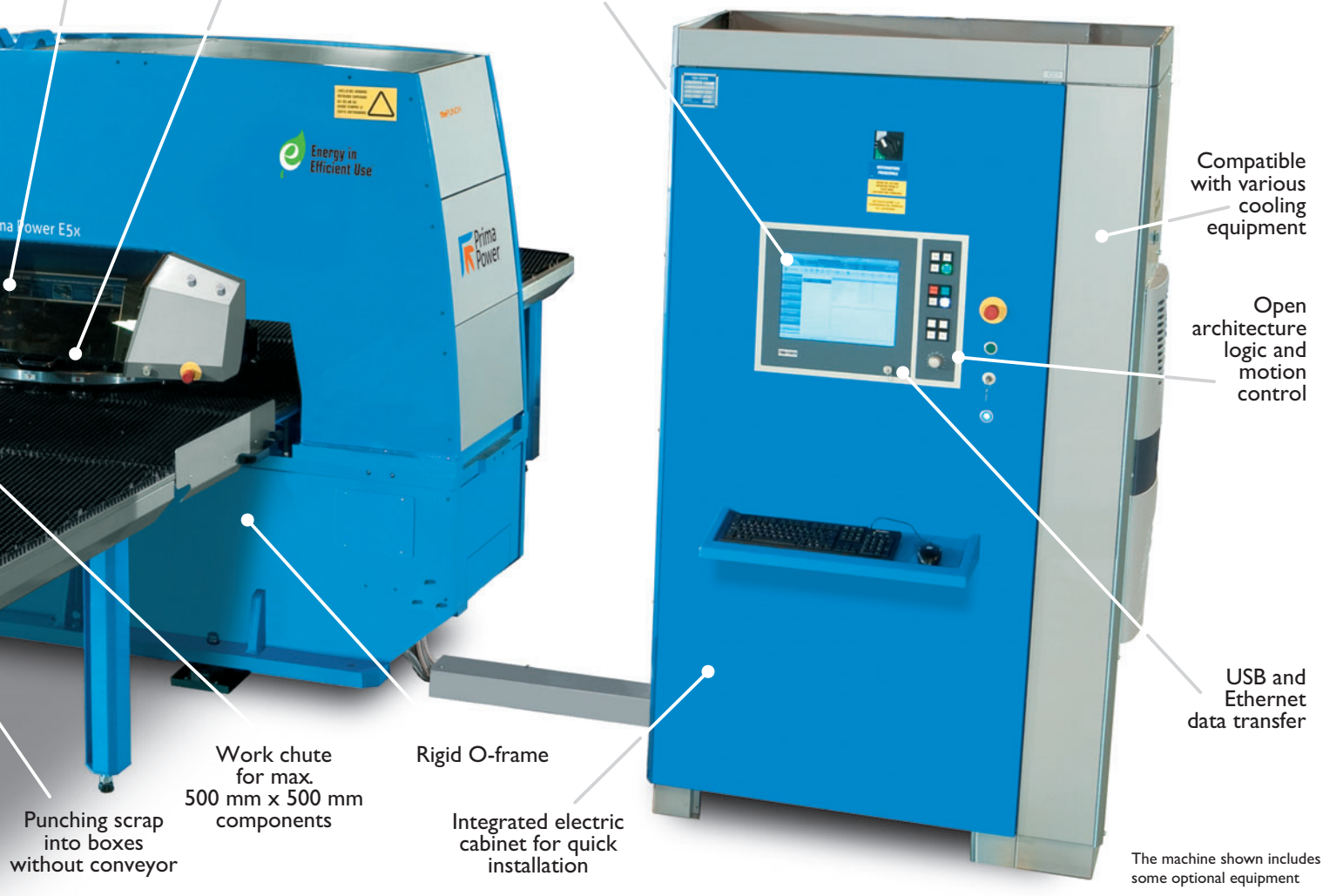
Sustainability adds to manufacturing efficiency and productivity.

Your customers, your employees and the community you operate in demand it more and more.

Sustainability & social responsibility are characteristics of a modern company and add to competitiveness.

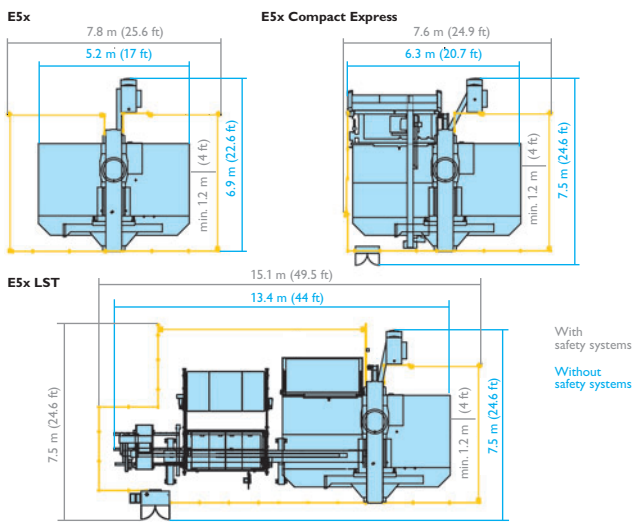
They make a difference between the best and the rest.

And you make better sheet metal components at lower cost.



The machine shown includes some optional equipment

Approximate main dimensions



Prima Power E technology offers you

Max. sheet size 2,500 mm x 1,250 mm (96" x 48")
Punching speed up to 700 hpm / 1 mm between holes
Punching forces 17, 20 or 23 ton (19.1, 22 or 25.3 US ton)
Tool rotation speed 133 rpm
Average power consumption: 5 kVA / 4 kW
Power consumption on stand-by: less than 0.5 kW
Power supply connection: 15 kVA (3 x 20 A fuse / 400 V)

Energy in Efficient Use

Prima Power

The Bend
The Combi
The Laser
The Punch
The System
The Software

Servo-electric turret punch press E6x / E8x

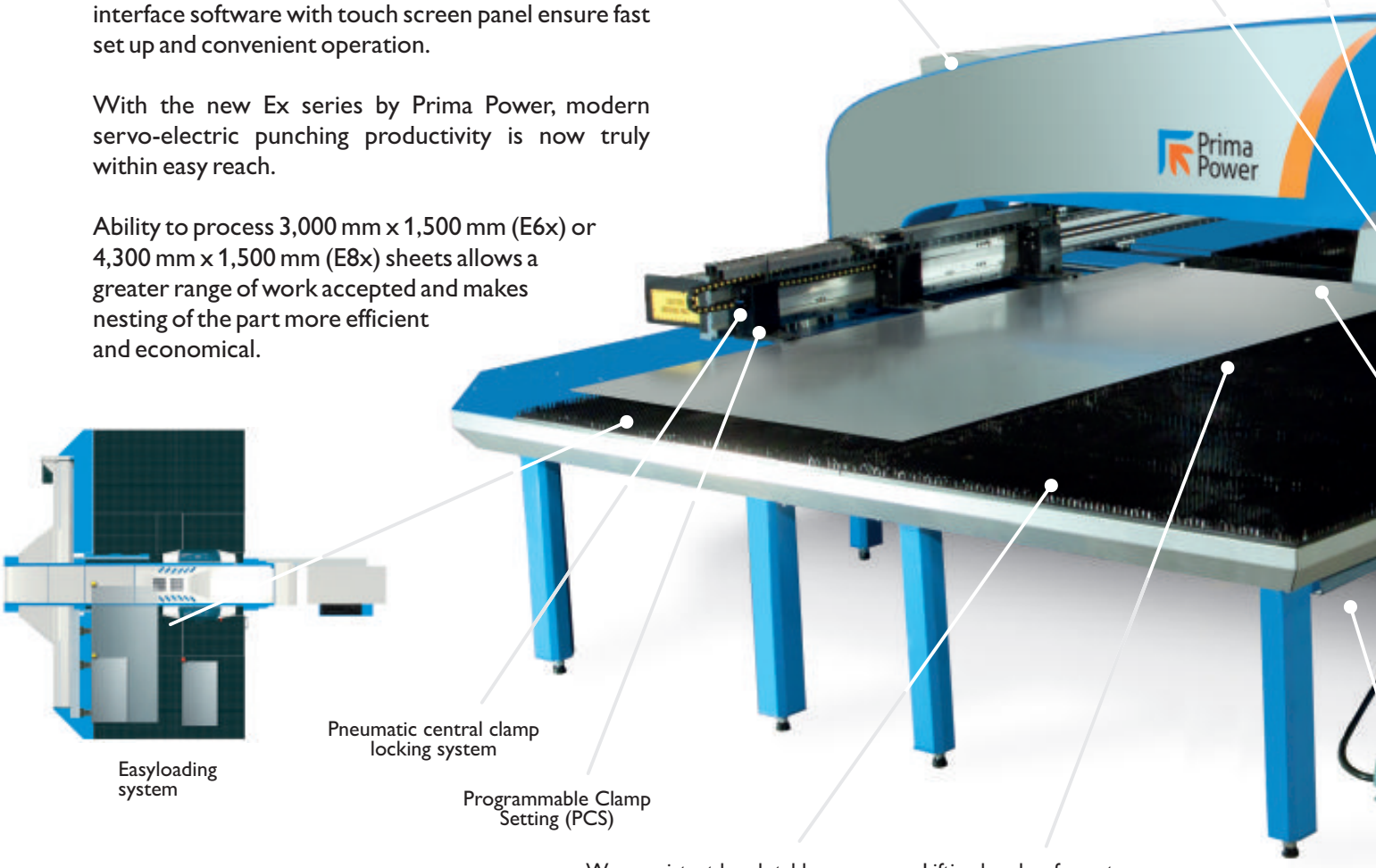
Servo-electric turret punch press E6x / E8x

Prima Power's new Ex series offers state-of-the art in servo-electric punching technology, based on pioneering experience, in an eminently flexible and affordable package.

The genius of servo-electric punching is how it combines energy savings and ergonomics with superb accuracy and productivity. The Ex series has been designed to offer versatile capacity made easy to utilize; Prima Power's new machine control and user interface software with touch screen panel ensure fast set up and convenient operation.

With the new Ex series by Prima Power, modern servo-electric punching productivity is now truly within easy reach.

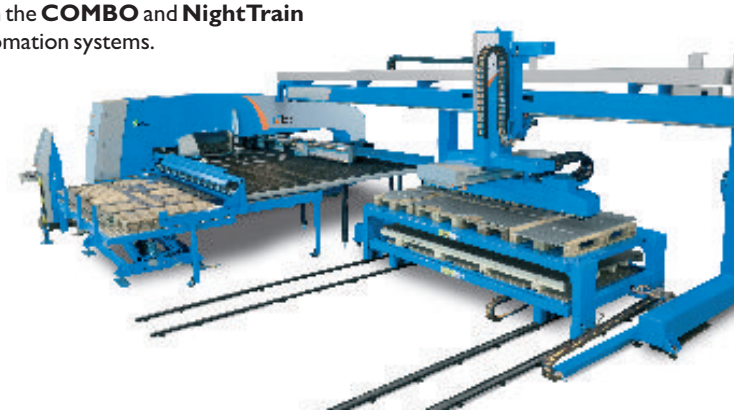
Ability to process 3,000 mm x 1,500 mm (E6x) or 4,300 mm x 1,500 mm (E8x) sheets allows a greater range of work accepted and makes nesting of the part more efficient and economical.



Flexible automation

Compact Express is a fully automated material handling device. The placing of the automatic loading and unloading unit makes it possible to use several combinations of automatic and manual loading and unloading cycles. The manual loading table is free for use for manual operation.

Component handling of the E6x can be automated with the **LST system**, which picks components from the machine and stacks them into programmed positions in the palletizing area. Further, the LST features an automatic skeleton removal function, and the entire working cycle of the machine becomes automatic. The LST can be equipped with several additional tables and integrated with the **COMBO** and **NightTrain** automation systems.



green means

What does Green mean?

Green means a win-win for you and sustainable development.

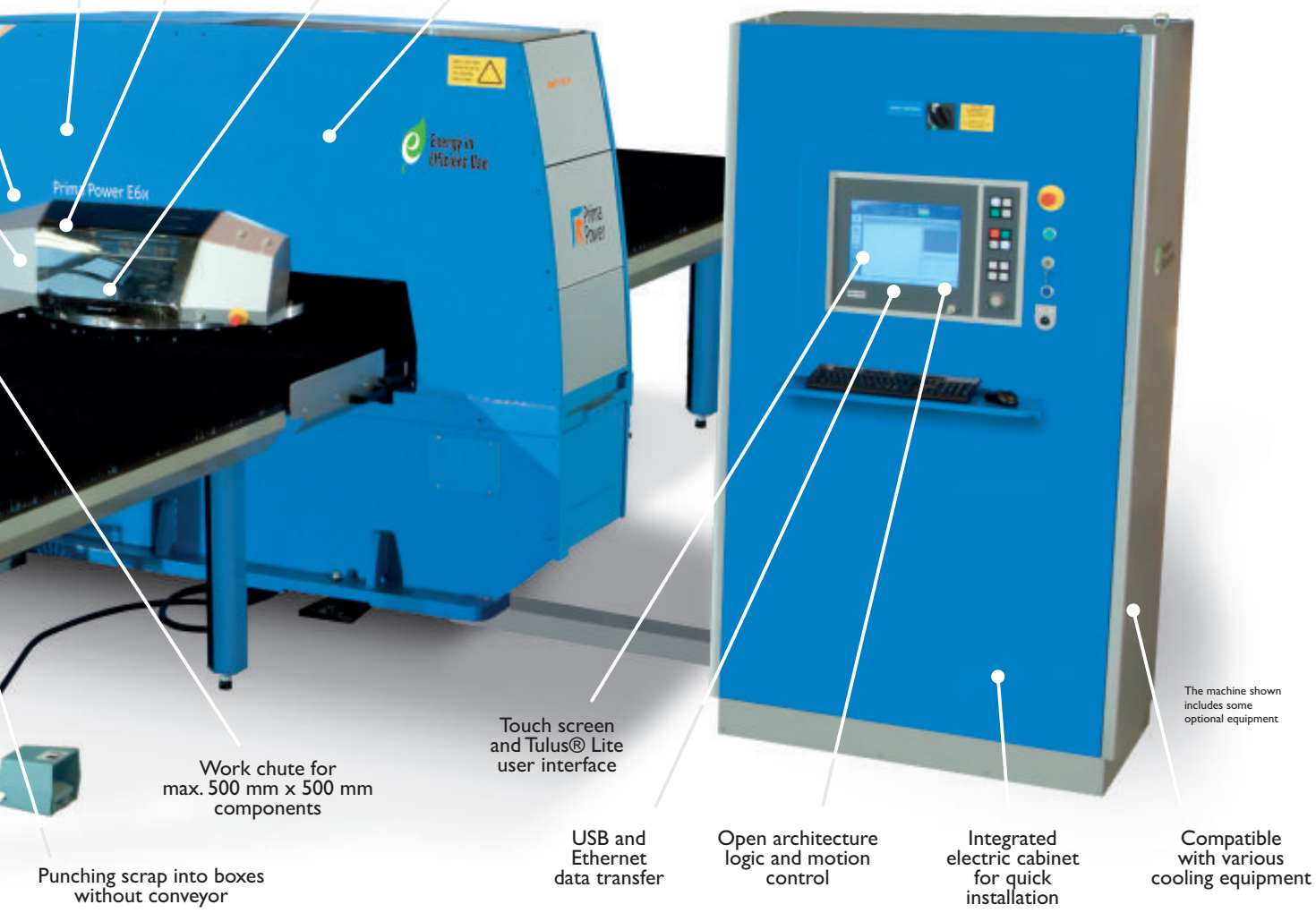
Sustainability adds to manufacturing efficiency and productivity.

Your customers, your employees and the community you operate in demand it more and more.

Sustainability & social responsibility are characteristics of a modern company and add to competitiveness.

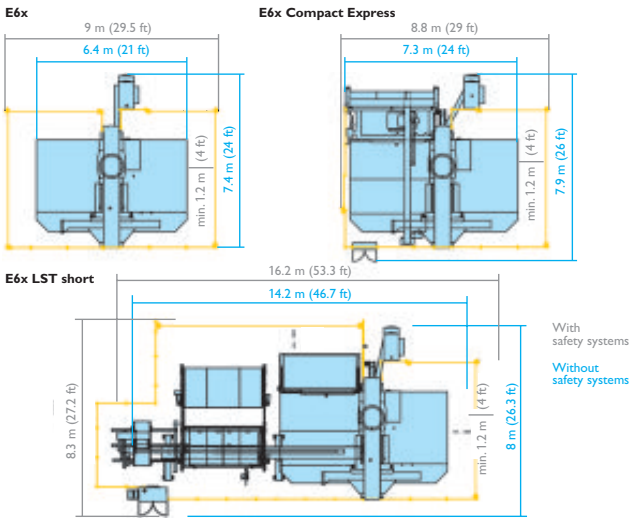
They make a difference between the best and the rest.

And you make better sheet metal components at lower cost.



The machine shown includes some optional equipment

Approximate main dimensions



Prima Power E technology offers you

Max. sheet size E6x: 3,000 mm x 1,500 mm (120" x 60")
Max. sheet size E8x: 4,300 mm x 1,500 mm (170" x 60")
Sheet size 2,530 mm x 1,565 mm (100" x 60") without repositioning
Punching speed up to 700 hpm / 1 mm between holes
Punching forces 17, 20 or 23 ton (19.1, 22 or 25.3 US ton)
Tool rotation speed 133 rpm
Average power consumption: 5 kVA / 4 kW
Power consumption on stand-by: less than 0.5 kW
Power supply connection: 15 kVA (3 x 20 A fuse / 400 V)

Energy in Efficient Use

Prima Power

The Bend
The Combi
The Laser
The Punch
The System
The Software

Prima Power E series servo-electric turret punch presses

New servo-electric turret punch press by Prima Power

An early and major step towards sustainable fabrication was taken on the introduction of the servo-electric E series turret punch press in 1998. Now Prima Power introduces already the third generation of this series, with 22 % faster cycle time compared with previous models.

The inherent benefits of servo-electric include energy efficiency, versatility and accuracy and low maintenance cost.This amounts to superior fabrication capabilities as well as outstanding operation economy, i.e. truly remarkable savings.

The new series comes in three sizes for maximum sheet sixe 2,500 mm x 1,250 mm (E5) and 3,000 mm x 1,500 mm without repositioning (E6). The maximum sheet size of the new E series is 4,300 mm x 1,500 mm.

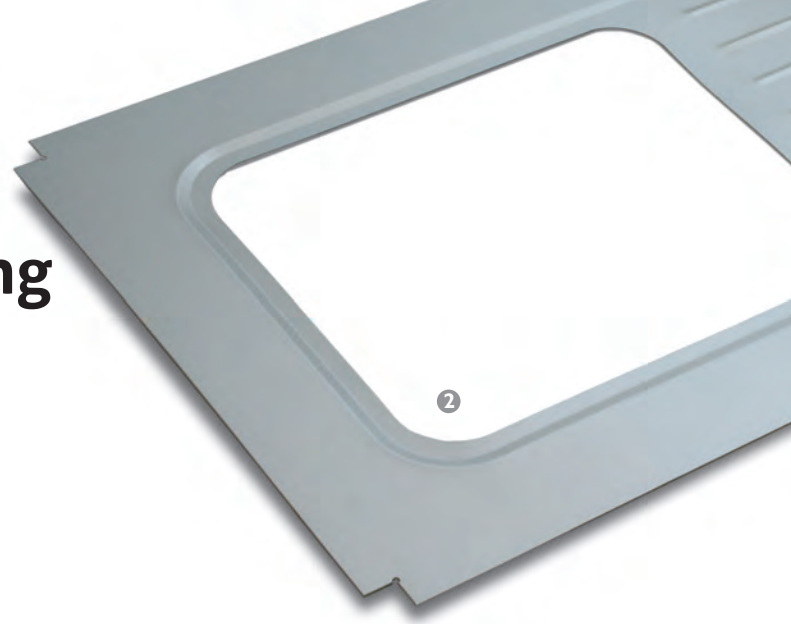
Performance values are truly impressive:
- Hit speed up to 1,000 hpm (22 % faster cycle time)
- Sheet positioning speed up to 150 m/min (125 m/min for E5)
- Index speed 250 rpm
- Max 300 kN ram force available for all machine functions and for all tools

Energy in Efficient Use®

Prima Power E series benefits

+ Low energy consumption at three power modes: run / stand by / idle
  Average power consumption 5 kVA / 4 kW
  Power supply connection 15 kVA (3 x 20 A fuse / 400 V)
+ Low maintenance cost
+ High versatility
+ High performance values
+ Wide range of options
= Very high productivity in most varied applications

Prima Power E – high-performance servo-electric punching



Ease of operation 1

Prima Power E technology has properties such as automatic tool length measurement, optimization of stroke length and easy adjustment of the punching stroke. These combine with others, adding up to faster set-ups, more ease of operation and higher capacity.

Punching and forming 2

The servo-mechanically actuated punching stroke is NC-controlled and thus, in addition to high-performance punching, outstandingly accurate forming capacity is available.

High repeatability facilitates forming, roll forming, marking etc. and shortens set-up times.

Sheet positioning 3

The machine features an axis actuation system based on maintenance free AC-servo motors. The construction allows positioning speeds up to 150 m/min (E6 and E8) and 125 m/min (E5); acceleration of the axes is adaptive and accuracy

Automatic clamp setting and moving 4

The Programmable Clamp Setting function automatically positions sheet clamps according to numerical program, minimizing clamp dead zones. When changing production from full size to small sheets, clamp settings can be made automatically without wasting operator time.

Tables and easy loading 5

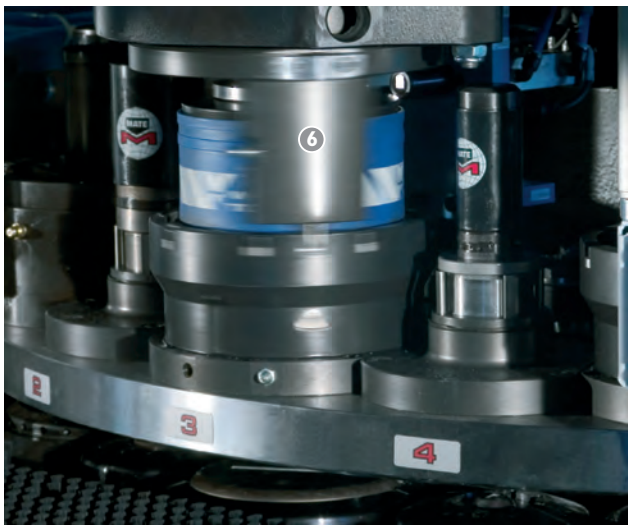
Machines are equipped with brush tables, which protect sheet surface and prevent noise and vibration which would be hazardous for micro joints.

Manual loading is easy even with automation devices added to the system. Whether processing small, pre-cut sheets or full size material, sheet loading takes place with a simple push. Sheet supports allow easy positioning of heavy sheets.

FastAuto-Index 6

A large number of index tools facilitates set-ups and programming, shortens tool change times and increases production speed.

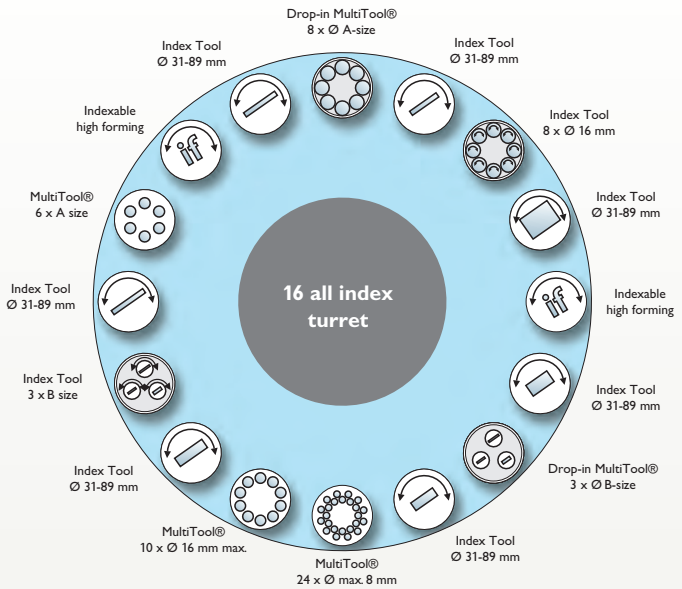
Maximum index rotating speed is 250 rpm. The rotation mechanism of the punch and die is mechanically engaged and disengaged vertically. It enables full tonnage and punch speeds to be used in any station, with any tool size.



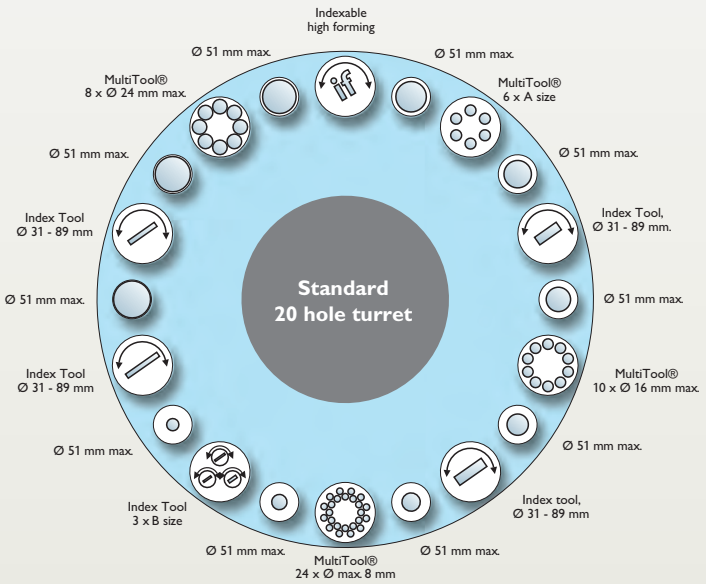
Large tooling capacity

A totally re-designed turret can be chosen for the new E series; it can be customized and optimized for any requirement. Simultaneously, a record-breaking number of 384 tools can be available in the turret; thus unnecessary set-ups can be easily avoided. The original fully customized turret layout is also available.

The maximum number of index tools has also been raised to 128.



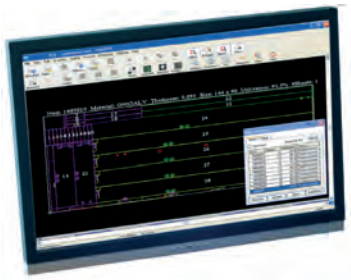
Example of a customer specific turret layout. This one includes 69 tools, of which 18 index tools and 2 indexable high-forming station.



Example of a customer specific turret layout. This one includes 66 tools, of which 7 index tools and 1 indexable high-forming station.

Sophisticated software

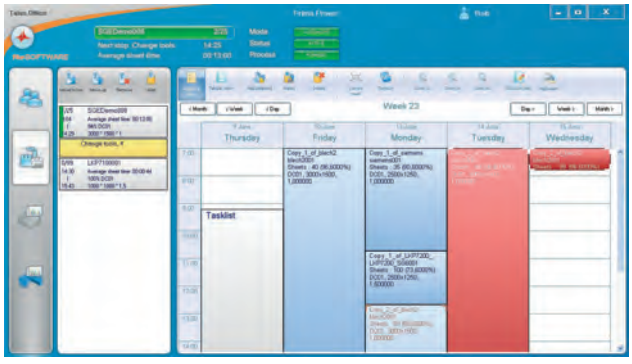
Special attention has been paid to ease of machine set-ups and efficient programming. The benefits include excellent possibilities for e.g. roll forming and for other special tooling. With optional features, the software can be made compatible with standard ERP connections for importing orders and exporting reports.



NC Express CNC programming system is a user friendly, integrated, and automated tool for programming the equipment. NC Express is for single part drafting and tooling or a fully-automated programming system for large production line.

Tulus® is management software of fabrication machines and systems. Tulus® controls machines with all essential information on machine related tasks within the same window. On arrival of new orders, Task management informs the operator of eventual needs for changes in materials, tooling, etc. Tool setting and other machine parameters can be easily set by interactive graphical interface. Additional production scheduling performance reporting and remote monitoring are available.

Above: Easy task list and tooling management with Tulus GUI.
Below: Tulus Office production follow-up and scheduling.

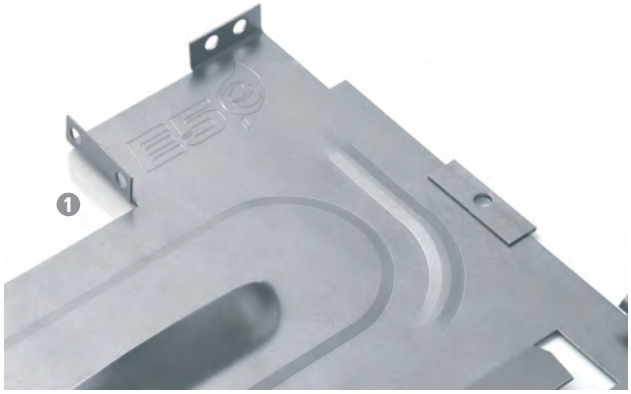


WIDE RANGE OF OPTIONS

There is a wide selection of optional equipment and features with which the standard machine can be customized to meet specific requirements. Most of these can also be installed later as machine upgrades.

Upforming 1

An additional forming cylinder is available. It is a servo operated ram installed in the lower machine frame. It lifts the forming die to a programmed position. The tool is retracted after forming, preventing a collision with the moving sheet. With this cylinder, versatile forms up to 16 mm (0.63") in height (incl. sheet thickness) can be made.



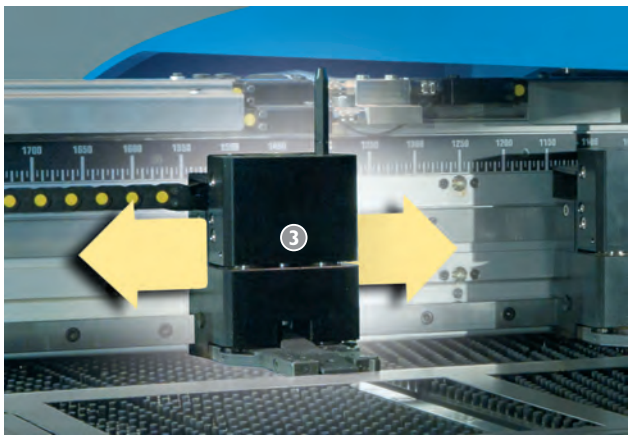
Fast component identification 2

E series offer several solutions for adding information to components to ensure reliable identification with different type of marking tools.

E6 and E8 can also be equipped with an inkjet or a labelling device

Extra clamp and individual movement 3

The machine can be equipped with extra clamp. Dead zones are completely eliminated with an individual clamp movement.

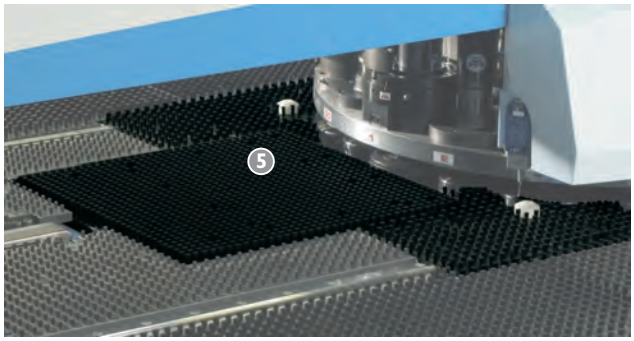


Multi-Tool® stations 4

The turret can be equipped with Multi-Tool® stations to increase the number of tools. The latest development in Multi-Tool® technology is the possibility of using drop-in style indexable Multi-Tools® on D-size index tool holders.

Lifting brush tables 5

Three brush table segments can be lifted to prevent sheet from scratching by tools which are higher than others. The function in no way complicates or slows down machine operation.



More options

- Quick Change Die Holder and code reader
- Scrap conveyors
- Vacuum system
- Work chute (500 mm x 500 mm) & part sorting
- Tool lubrication
- Tapping tools & 6-head tapping unit
- Service agreements

Flexible automation

The E series can be automated in several ways for unattended operation and increased capacity. Automation equipment is placed on left side of the machine, leaving the right side always open for manual sheet loading and unloading.

A wide range of table and wagon solution is available for loading, unloading and stacking.

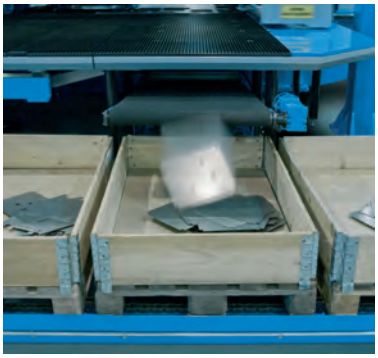
E series turret punch presses equipped with Express or LST and movable wagons can be connected to COMBO or NightTrain automation systems.

	E5	E6	E8
Drop door 500 mm x 500 mm for single part sorting	●	●	●
Drop door with SU sorting up to six addresses	●	●	●
Compact Express loading and unloading	●	●	● [1]
Express loading and unloading		●	●
LST loading, unloading and part stacking [2]	●	●	● [1]

1. Automatic loading and unloading of sheets up to 3,000 mm x 1,500 mm
2. Short and long models can be chosen to according to stacking area required

Express

Compact Express



Drop door with SU

Compact Express & LST:
Max. table capacity 3,000 kg
Max. sheet weight 200 kg

LST