

NO OIL SAVE ENERGY



ELECTRO CUT



ELECTRO BRAKE

BOSCHERT GIZELIS.co





SERVO ELECTRIC

PRESS BRAKE

Gizelis SA has been manufacturing top-of the line sheet metal working machinery for over 50 years. Sturdy machine elements and high quality workmanship ensure a lifetime of trouble-free operation. The new line of servo electric press brakes features higher productivity, accuracy and reliability than ever before and in the meantime the operational and maintenance costs are unprecedentedly low. Ram speeds outperform the competition making one of the fastest bending cycle times possible. Overall the new line of Gizelis electric press brakes cost less to own, make your production faster with fewer waste and simply leave you a better profit margin.

ENERGY EFFICIENT

Up to 50% compared to conventional hydraulic press brakes.

FAST

With ram speeds that outperform the competition.

PRODUCTIVITY

One of the fastest cycle times in the market. Up to 35% faster cycle times than hydraulic press brakes.

INTRINSICALLY SAFE

The upper beam is mounted on springs and thus in the event of failure it moves upwards.

USER FRIENDLY

Very easy to commission and operate.

EASY TO USE

The unique Gizelis software (under development) offers utmost simplicity even for complex tasks.

FLEXIBLE

Featuring 600mm daylight and 400mm stroke - the electrical press brake is suitable for a very wide range of applications.

ENVIRONMENTALLY CONSCIOUS

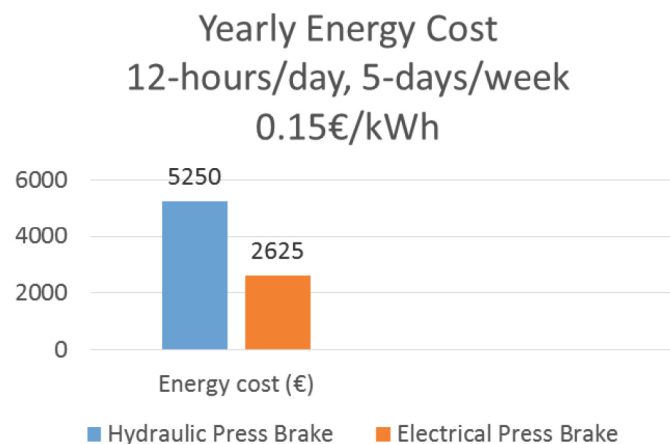
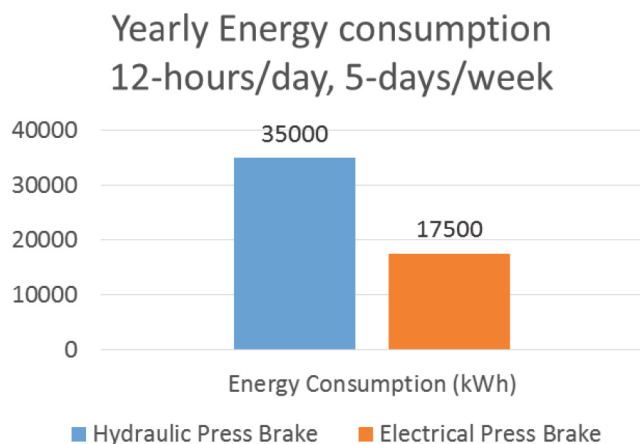
No oil to leak, to exchange or dispose.

PRODUCTIVITY - ACCURACY - SPEED

Conventional press brakes use conventional AC motors that rotate continuously and circulate oil by means of a pump and produce hydraulic power that is then used to perform the bending. There are several drawbacks to this system that are eliminated by the use of AC servo motors.

Energy consumption:

AC servos move only when the ram moves. Conventional hydraulic systems circulate the oil constantly. Electric press brakes consume up to 50% less energy. A conventional press brake working 12 hours/day, 5 days a week consumes approx. 35000 KWh while an equivalent electric press brake approx. 17500 KWh. The Kwh price in Europe is approx. 0,2€. This means that owning an electric press brake rather than a conventional one saves up to 3,500€ annually.



Cycle time:

There are several things that limit the performance of a hydraulic system among which are dwell times etc. This is not the case for AC servos that can change direction and speed almost instantly. This means that the cycle time of the bend can be greatly reduced. Also the specialized AC servos that Gizelis press brakes utilize feature a unique technology: There are two windings inside the motor, one that provides very high torque at low rpm (needed for the bend) and one that provides high rpm with low torque (needed during non-bend ram movements). This makes cycle times of the Gizelis press brakes even faster.

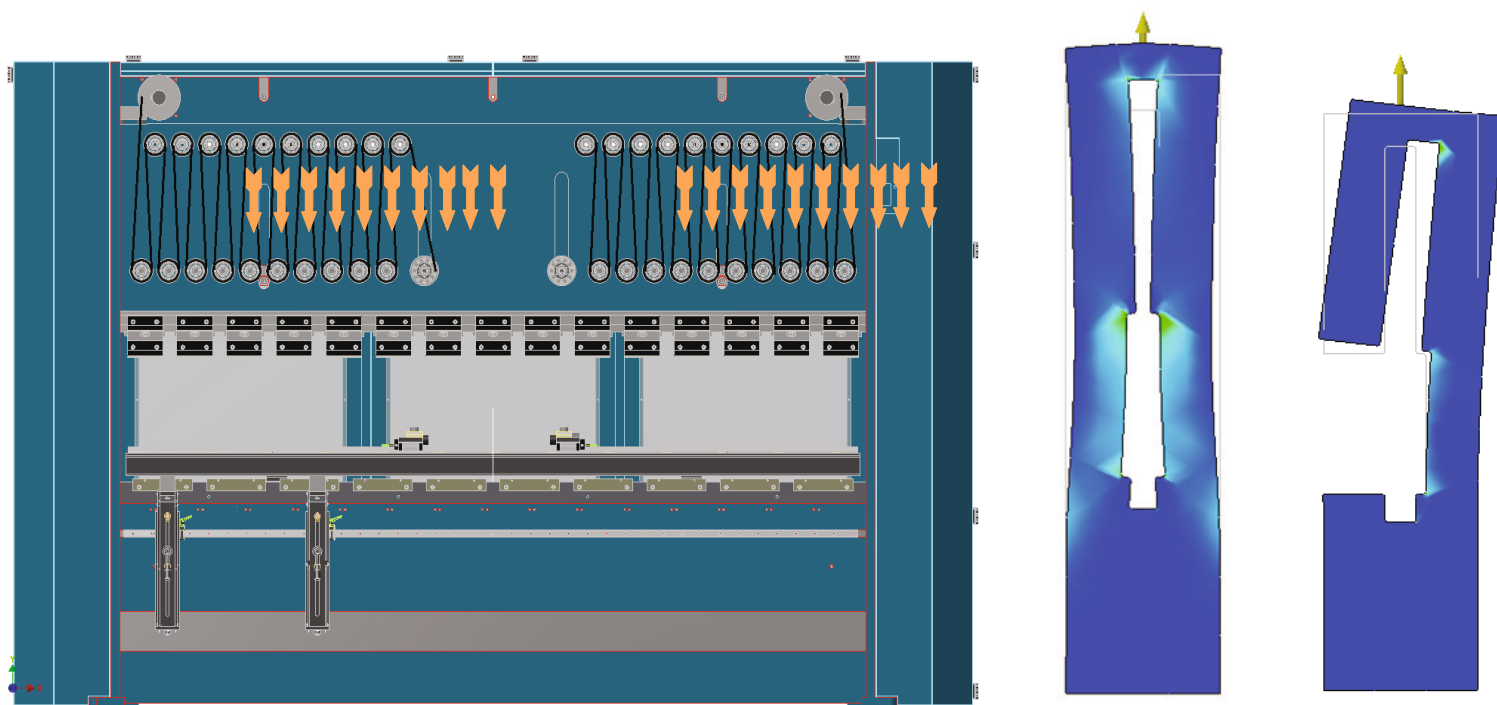
INNOVATIVE DESIGN

Rigid O-Frame

The Gizelis Electric Press Brakes feature a rigid O-Frame that ensures minimum deformation even at full load. Furthermore the O-frame guarantees that the tools do not move laterally to the bend line since there is no horizontal deformation in the frame. Furthermore the position of the ram is controlled by two linear encoders with accuracy of $\pm 0.001\text{mm}$. These encoders are mounted at a low position on the machine that does not deform at all under load. This makes the measurement of the ram position independent of deformation on the side frame and increases accuracy. Increased accuracy means less waste parts and this in turn makes each part produced actually cheaper to make.

Belt-Pulley system

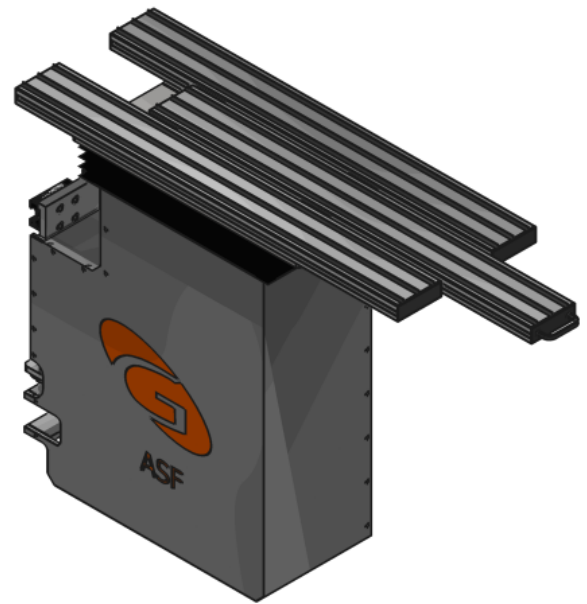
The inventor of the belt pulley system was the Greek Archimedes and when he made the discovery he said: "Give me a place to stand and I will move the earth". The belt pulley system multiplies the force of the electric motors and makes the production of very large forces possible. Because the force is applied on many evenly spaced points on the ram it makes ram deflection negligible. The rollers feature twin sealed ball bearings and the belt itself is steel cord reinforced. There is no need to maintain / lubricate anything in this system. Ownership cost is thus further decreased.



FRONT GAUGE OPTION

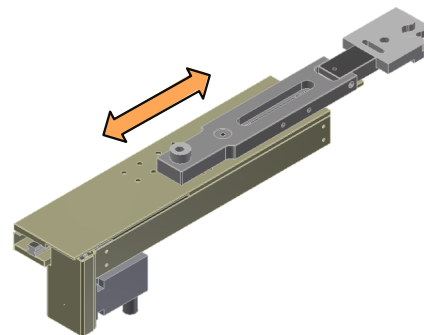
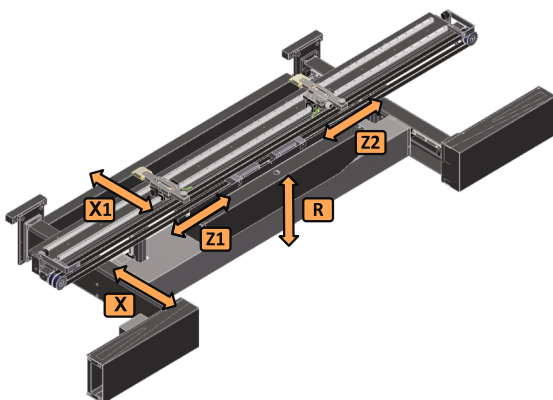
Highly flexible, fully automatic bend following

Our company offers a unique front support with bend following capabilities which supplements the Gizelis Electro Brake capabilities in the best possible way. It is obvious that during the bend process of large metal sheets the task of manually supporting the material during the bend is a cumbersome task. Furthermore, especially when the overhanging sheet is moving fast it also poses a risk of injury. Because of these two factors productivity of the machine can be significantly hindered. Gizelis fast, sturdy, fully automatic, bend following front support is the solution. Featuring automatic height adjustment according to die, expandable top supporting surface according to needs, full NC integration and absolute elimination of double bends Gizelis ASF (Automatic Sheet Support) is an asset to any press brake.



X' BACKGAUGE OPTION

The X' axis is illustrated in the below schematic. One of the back gauge fingers has the ability to move back and forth by 400 mm. This is especially useful when manufacturing conical sheet metal parts. The special shape of the fingers facilitates the angular placement of the workpiece in relation to the bend plane.



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SAFETY SYSTEM

A new level of machine productivity and operator safety

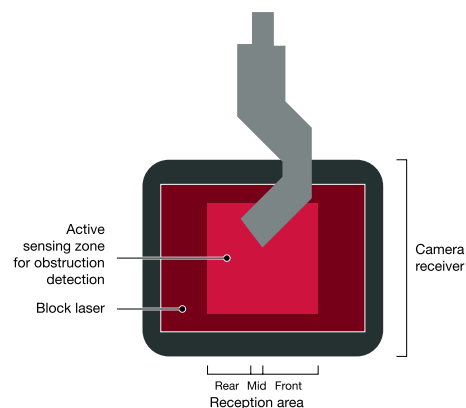
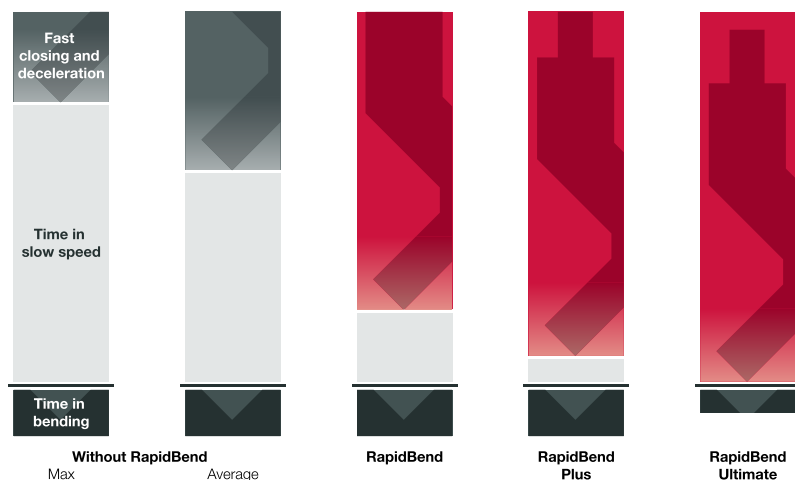
The Gizelis Electro Brake features the state of the art in optical protection technology. The Lasersafe Rapidbend patented technology enhances machine performance to levels never before possible. A total reduction of 2 seconds is made possible by this unique technology. This represents a significant saving in operating time and cost that can result up to 35% increased productivity.

Optical protection systems with RapidBend technology employ a patented progressive muting process that enables the press brake to close safely at high speed until the tool opening is only 6mm. This reduces the slow speed travel distance to enhance machine productivity.

RapidBend Plus reduces the speed change point even further from 6mm down to just 2mm to significantly enhance machine productivity, especially in high level production environments.

RapidBend Ultimate eliminates slow speed altogether. The tools close in high speed until the punch reaches the material surface for the ultimate high speed performance. In comparison to other light or laser based guarding systems.

BendShield provides advanced optical protection by enveloping the punch tip with a protective field that has no gaps. BendShield has an object detection resolution of 2mm to detect even the smallest obstruction from any angle. Optical protection remains active until the tool opening is reduced to 2mm preventing fingers and hands entering the point of operation.



Applies to LZS-005, LZS-005-L, IRIS and IRIS Plus

BOSCHERT GIZELIS

POWERFULL OFFLINE PROGRAMMING

THE PROBLEM ■ What you design is not what you produce!

WHY? ■ Because, the unfolding and cutting process does not take under consideration bending parameters (e.g. available tools, tools radius, etc.).

THE SOLUTION ■ BG-Soft combines the BG-Soft Cut with the BG-Soft Bend into one unified environment. This way every aspect of the manufacturing process (bending and cutting) is considered, that.



WHAT YOU DESIGN IS WHAT YOU GET!!

BG-soft bend is an application for programming and simulating Boschert Gizelis press brakes, used for maximizing production resources. BG-soft bend enables one generation of bend sequences and tooling setups, with dynamic 3D simulation for checking collisions of the part with tools, ngers and machine components.

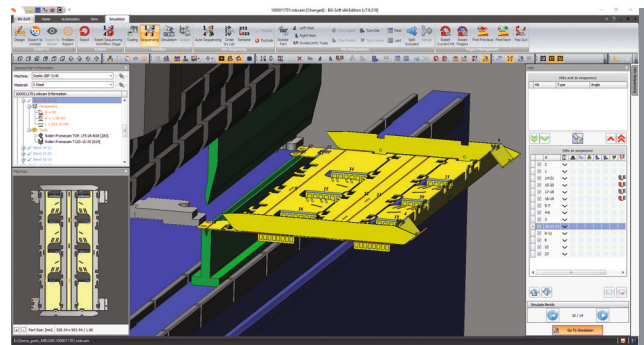
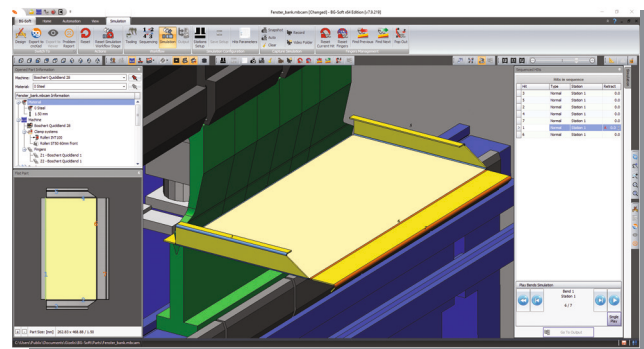
FEATURES

- Direct part transfer from SolidWorks, Solid Edge and Inventor
- Importing and unfolding of IGES and STEP 3D parts
- Automatic and manual tool selection based on material, machine and tool properties
- Automatic and manual bend sequencing with collision detection
- Automatic and manual ngertestop positioning with graphic control of all axes
- Automatic retraction calculation
- 3D simulation of the bending process with collision detection
- Native NC generation enables direct loading of programs to the machine control
- Comprehensive Setup Reports for the machine operator including bend sequence, tooling and bend-by-bend graphics

ADVANTAGES

BG-soft bend enhances your productivity with:

- Faster design-to-production times with automated features
- Offline programming means minimal machine downtime
- Collision-less bend sequences mean reduced stock wastage
- BG-soft bend tool library is compatible to available tooling resulting in production-ready Setup Reports



3D SIMULATION AND COLLISION DETECTION

EFFICIENT TOOL SELECTION

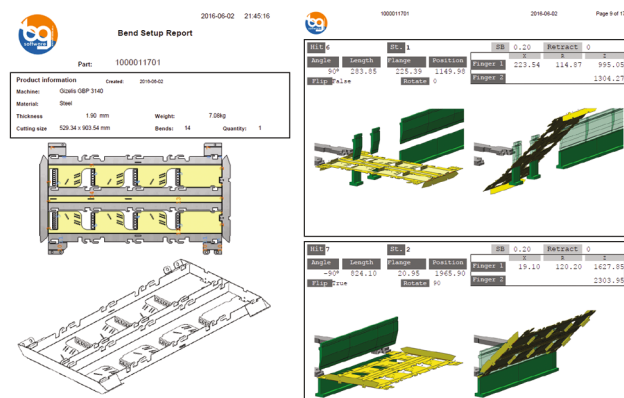
BEND SEQUENCE SELECTION

FINGERSTOPS POSITIONING

SETUP REPORTS

COMPREHENSIVE SETUP REPORTS INCLUDE:

Bend sequence instructions
Tool setup details
Product handling
Bend-by-bend graphics



POWERFULL OFFLINE PROGRAMMING

FROM THE IDEA... TO REALITY

BG-Soft Cut is the only system that integrates CAD/CAM capabilities in the same module: Geometry, dimensions and technology (punching/cutting) are entirely linked – when the geometry is modified, the dimensions and technology are updated automatically!

Automatic Nesting

BG-Soft Cut offers optimum material utilization with AutoNest – CNC automatic nesting module. AutoNest is an important True-Shape nesting tool offering versatile methods for automatic and manual nesting to achieve the best possible nesting solutions.

3D CAD Interface

The CAD Link module enables a real-time transfer of parts, from 3D CAD packages to BG-Soft Cut, just by clicking once. Parts can be transferred from SolidWorks®, Solid Edge®, Autodesk® Inventor®, PTC Creo® and Vertex® G4 by using an on-line link, bypassing the need for intermediate files such as DXFs.

Drafting

BG-Soft Cut has an easy-to-use 2D drafting module of great significance. In addition to a full set of drafting tools, BG-Soft Cut supports special sheet-metal drafting aids and geometry validation to automatically detect and correct unclosed contours.

Punch Technology

- The Punching module supports:
- Auto-Punch
- Special Tools
- Auto-Indexing
- Automatic Reposition
- Common Cuts

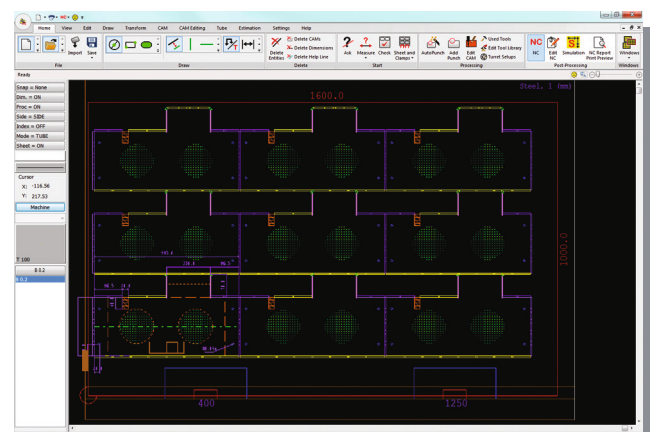
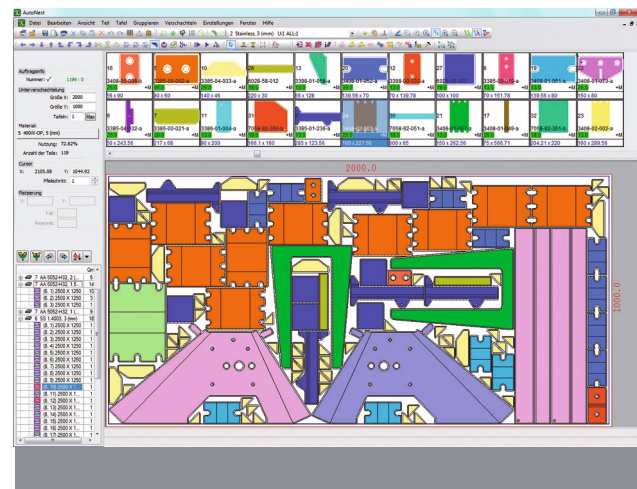
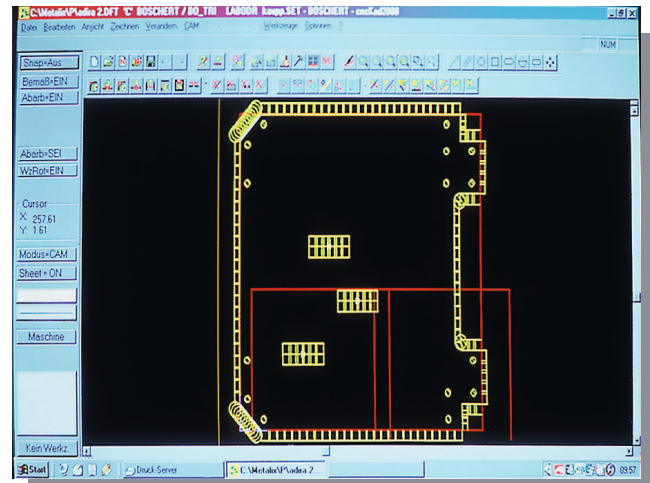
Cutting Technology

The Cutting module supports:

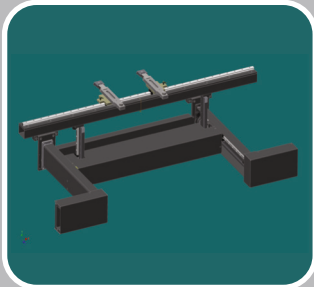
- Auto-Cut
- Contour Check and Correction
- Beam Width definition and Auto Correction
- Art Parts
- Corner Loops and Corner Slowdown
- Z-axis control
- Open Contour Cutting

Data Reports

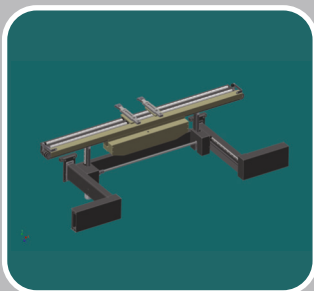
- Detailed production reports for individual parts, nesting solutions and costing estimation, using fully customizable templates with barcode.



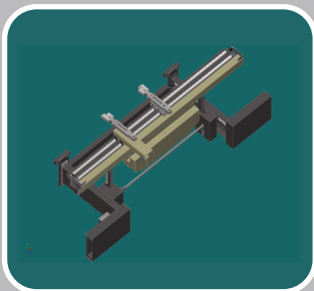
OPTIONS



2-axis back gauge, X-R



4-axis back gauge, X-R-Z1-Z2



5-axis back gauge, X-X'-R-Z1-Z2



Heavy-duty front supports, moveable on linear guide, height adjustable (2 pieces)



CNC Front support (CNC bending aid)

OPTIONS



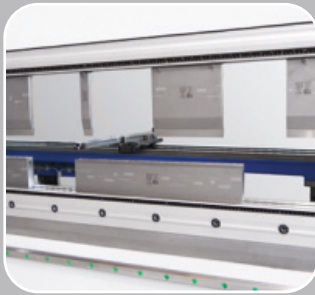
ROL200, Fast mechanical clamping with vertical tool exchange

(standard tools/no tool modification required)

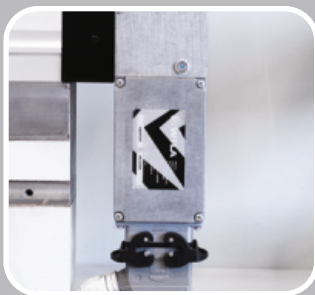


ROL200PN, Fast pneumatic upper-tool clamping with vertical tool exchange

(standard tools/no tool modification required)



Hydraulic clamping for upper & lower tooling, WILA – Premium/Pro Version



CNC-controlled anti-deflection system (crowning)



Manually Measuring Bending Angle and Bending Program Correction

TECHNICAL SPECIFICATIONS

		2060	2580	3100	4200
Bending Length	[mm]	2100	2600	3100	4200
Distance between frames	[mm]	2150	2650	3150	4250
Daylight	[mm]	600	600	600	600
Stroke	[mm]	350	350	350	350
Power	[kW]	2x4,5	2x6,5	2x8,4	2x8,4
Weight	[kg]	5750	6550	7500	8450

Y-axis

Fast Speed	[mm/sec]	150	150	150	75
Working Speed	[mm/sec]	20	20	20	20
Return Speed	[mm/sec]	140	130	120	110
Repeating accuracy	[mm]	0.001	0.001	0.001	0.001

X-axis

Speed	[mm/sec]	800	800	800	800
Accuracy	[mm]	±0,05	±0,05	±0,05	±0,05
Stroke / max. positioning	[mm]	700	700	700	700
Stroke X' (delta X)	[mm]	400	400	400	400

R-axis

Speed	[mm/sec]	125	125	125	125
Stroke	[mm/sec]	250	250	250	250
Accuracy	[mm/sec]	±0,1	±0,1	±0,1	±0,1

Z-axis

Speed	[mm/sec]	2000	2000	2000	2000
Accuracy	[mm/sec]	±0,05	±0,05	±0,05	±0,05
Working area	[mm]	1650	2150	2650	3650

TOOL CABINET



Ergonomic Tool Cabinet in order to keep your tooling safe and organized.

42 kg/mm ²																				
S mm	4	5	6	8	10	12	16	20	25	32	40	50	63	80	100	125	160	200	250	V
	3	3.5	4	5.5	6.5	8	10.5	13	16.5	21	26	32.5	41	52	65	81.5	104	130	163	B
	0.5	0.7	0.8	1	1.3	1.5	2	2.5	3.2	4.4	5	6.5	8	10	12	15	20	25	37	Ri
0.6	6	5	3	2																
0.8	12	9	7	5	4															
1		15	11	8	6	5														
1.2			18	12	9	7	5													
1.5				21	15	12	8	6												
2					30	23	16	12	9											
2.5						39	27	20	14	11										
3							43	31	23	16	12									
4								60	44	32	23	18								
5									76	54	39	29	22							
6										85	62	45	33	25						
8											121	88	70	46	35					
10												151	109	79	58	44				
12													173	124	91	66	50			
15														213	155	113	81	62		
20															302	220	158	115	89	
25																378	269	197	144	Ft/m
70 kg/mm ²																				
S mm	4	5	6	8	10	12	16	20	25	32	40	50	63	80	100	125	160	200	250	V
	3	3.5	4	5.5	6.5	8	10.5	13	16.5	21	26	32.5	41	52	65	81.5	104	130	163	B
	0.5	0.7	0.8	1	1.3	1.5	2	2.5	3.2	4.4	5	6.5	8	10	12	15	20	25	37	Ri
0.6	10	8	6	4																
0.8	20	15	12	8	6															
1		25	19	13	10	8														
1.2			30	21	15	12	8													
1.5				35	26	20	113	10												
2					50	38	26	19	15											
2.5						66	45	33	24	18										
3							71	52	38	27	21									
4								101	73	53	38	30								
5									126	90	66	48	37							
6										142	103	76	55	42						
8											202	147	117	77	59					
10												252	182	131	96	74				
12													288	207	151	110	83			
15														354	258	189	135	104		
20															504	367	263	192	148	
25																603	448	328	240	Ft/m

30° Bx1.6 R=20kg/mm² rx0.8

60° Bx1.1 R= 42kg/mm² rx1

90° Bx1 R= 42kg/mm² rx1

120° Bx0.9 R= 70kg/mm² rx1.4

150° Bx0.7 R= 70kg/mm² rx1.4

BOSCHERT GIZELIS



SERVO ELECTRIC

SHEAR

Servo Electric Guillotine Shear By Gizelis

Gizelis SA has been manufacturing hydraulic swing beam shears for over 50 years. Gizelis shears have always been top of the line with sturdy machine elements that ensure a lifetime of trouble-free operation. With the same philosophy our new line of servo electric shears is manufactured. This new type of shear brings Gizelis shears to the new millennium and introduces a new state of the art.

ENERGY EFFICIENT

Up to 50% compared to hydraulic shears of any kind.

FAST & PRODUCTIVITY

Fast and productive. With speeds that can reach up to real 40 cuts/min

INTRINSICALLY SAFE

The guillotine is mounted on springs and thus in the event of failure it moves upwards.

ENVIRONMENTALLY

There is no oil used and thus no problems related to its exchange/ disposal etc.

UNIQUE CONTROL

Unique control features. Gizelis software provides many functions that are not present on other shears.

USER FRIENDLY

Very easy to commission and operate. Oil free, thus no leaks and virtually zero maintenance.

UNIQUE SHEET SUPPORT

The sheet support systems utilizes a hybrid belt/pneumatic drive that can bring full length pieces to the front of the shear, thus increasing productivity like no other shear.

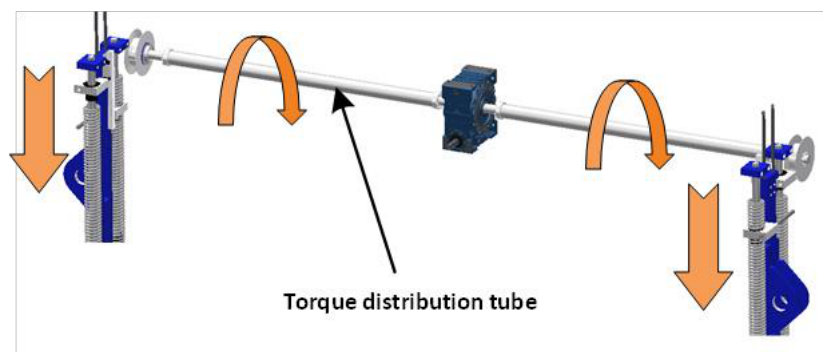
COST EFFECTIVE

A guillotine shear with variable rake angle at a very competitive price.

INNOVATIVE DESIGN

Power effective force distribution

During shearing of a metal sheet the full force required must be provided at the start of the cut and also at the end of the cut. This means that each hydraulic cylinder of the shear has to be sized in order to be able to provide the full force of the cut on its own. The force provided on the guillotine is twice as much needed in the center of the cut length. For a given power the extra force provided comes at an expense of speed. This is not the case with the force distribution in the new Gizelis shear. The force is distributed to the place that it is needed by means of a torque tube installed on top of the shear. This means that the motor power can be used much more effectively providing greater speeds for cutting, during non-bend ram movements). This makes cycle times of the Gizelis press brakes even faster.



Electric servo motor

Conventional shears use conventional AC motors that rotate continuously and circulate oil by means of a pump and produce hydraulic power that is then used to perform the cut. There are several drawbacks to this system that are eliminated by the use of an AC servo motor. Energy consumption: the AC servo moves only when the guillotine moves. Conventional hydraulic systems circulate the oil constantly, thus up to 50% less electrical energy consumed. Guillotine speed and control: There are several things that limit the performance of a hydraulic system among which dwell times etc. This is not the case for AC servos that can change direction and speed instantly. This means that the cycle time of the bend can be greatly reduced and that the control of the ram is perfect. A conventional shear working 12 hours/day, 5 days a week consumes approx. 35000 KWh while an equivalent electric press brake approx. 17500 KWh. The Kwh price in Europe is approx. 0,2€. This means that owning an electric press brake rather than a conventional one saves up to 3,500€ annually.

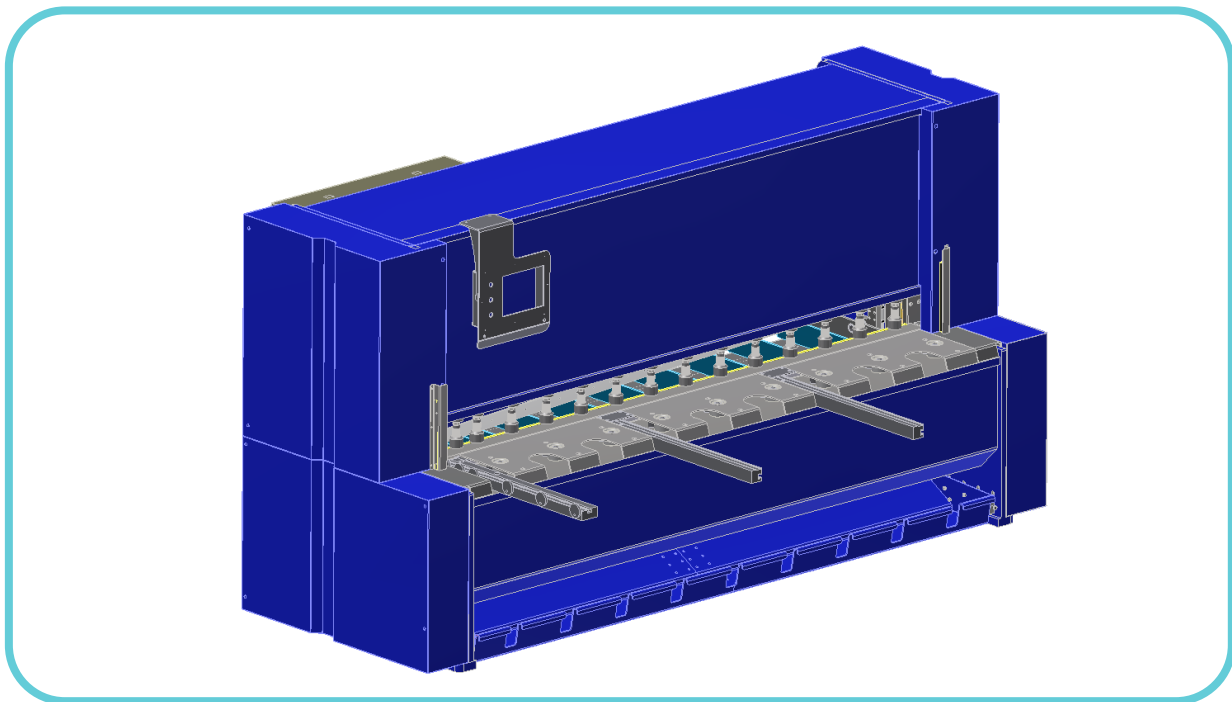
INNOVATIVE DESIGN

Belt-Pulley system

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Variable rake angle

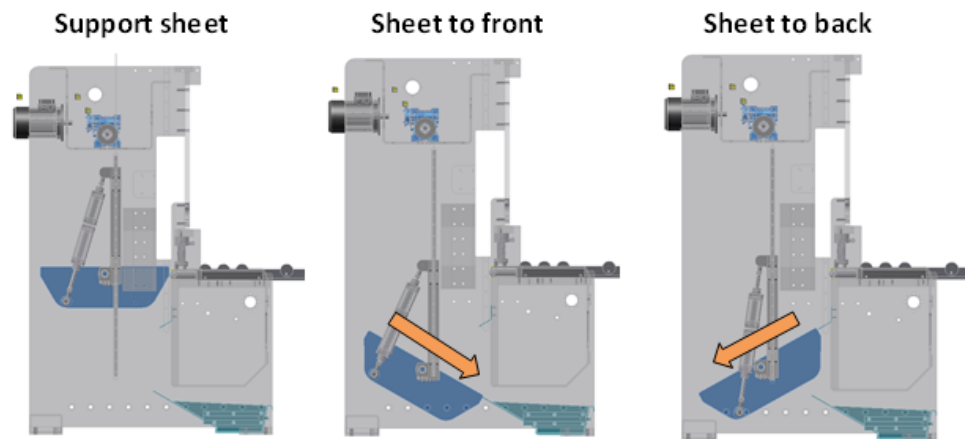
It is well known that the rake angle of shearing is a choice between force/quality-speed. The Gizelis electric shear comes with variable rake angle so that optimum results can be obtained for any given shearing task. Because of the nature of the driving system it is easy to change the rake angle by shortening / lengthening the belt of each side of the guillotine. This means that the variable rake angle system is provided for a very cost effective price.



INNOVATIVE DESIGN

Unique back sheet support system

The sheet support system is manufactured in a revolutionary manner by utilizing both belt and pneumatic technology. This provides the capability of sending the cut piece to the back or the front of the shear. Productivity especially for relatively narrow and long strips is greatly enhanced by the sheet to front capability.



Linear encoder for guillotine position and movement

For the guillotine position a linear encoder of very high resolution is used. Thus the precision of the shear is greatly enhanced. Functions like length of cut are faster and more precise than ever before.

AC servo back gauge

The Gizelis electric shear back gauge features an AC servo. Together with a rigid steel back gauge with high dynamic characteristics positioning of the back gauge is extremely accurate and very fast.

User friendly

- 10.4'' Color touch screen
- Programmable cutting length with linear encoder
- Activation / deactivation of all functions and operations
e.g. back-gauge, thickness, rake angle, sheet support mode, etc.
- Automatic calculation of the cutting clearance
- Automatic calculation of the optimum rake angle
- Manual or semi-automatic or full automatic mode
- Sequence of different cutting programs

OPTIONS

SHEET SUPPORT SYSTEM

*ATM SYSTEM:
AUTOMATIC THICKNESS MEASUREMENT*

RTF SYSTEM: RETURN TO THE FRONT

MFS SYSTEM: MOVABLE FRONT SUPPORTS

MFP SYSTEM: MOVABLE FRONT PANEL

BRUSHES ON TABLE AND SUPPORTS

FINGER SAFETY WITH LIGHT GUARDS

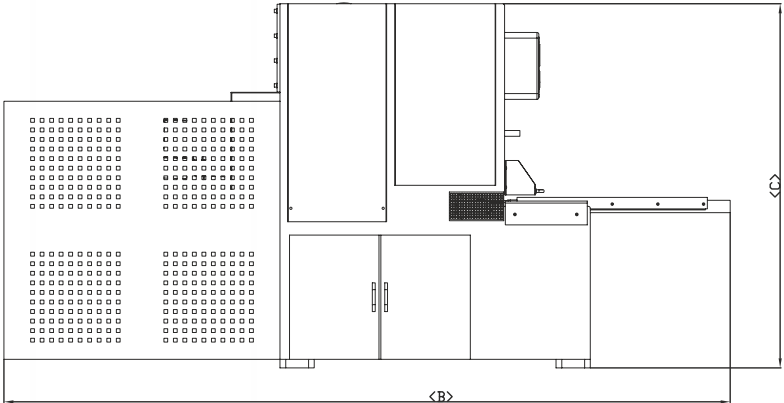
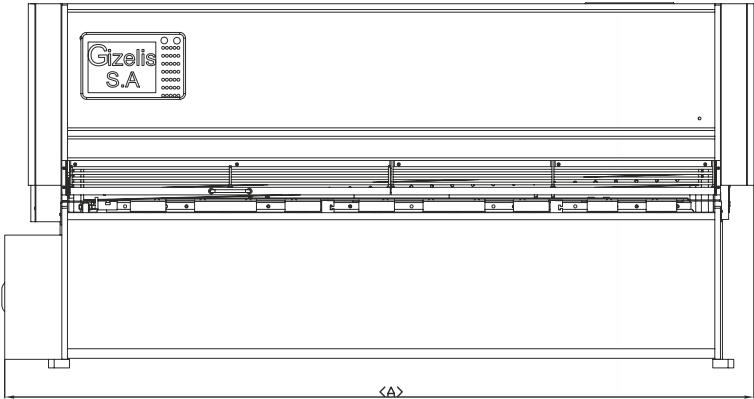
SYNTHETIC CUPS ON THE HOLD-DOWNS

LASER INDICATION OF THE CUTTING LINE

TRANSPORT BELTS

TECHNICAL SPECIFICATIONS

		2004	3006
Cutting Capacity	[mm]	4	6
Cutting length	[mm]	2000	3000
Back gauge stroke	[mm]	1000	1000
Cutting angle	[degrees]	0.5 - 2.5	0.5 - 2.5
Cutting speed	[strokes/min]	35	30
Main motor power	[kW]	4	6.5
Length	[mm]	3000	4000
Width	[mm]	1400	1400
Height	[mm]	1950	1950
Weight	[kg]	5100	7300



“GIZELIS ELECTRIC MACHINES” MEANS:

✓ PAY LESS

- Save up to 50% on energy compared to press brake
- High reliability, No downtime. Only very simple components like bearings, flat belts and gearboxes are involved in ram movement.
- Very low maintenance. Simple components without maintenance needs.
- Less scrap because of high repeating accuracy achieved by:
 - Uniform deflection of O-frame
 - Servo driven upper ram
 - No oil – no thermal interference



✓ EARN MORE

- Increase productivity by up to 35% with:
 - High ram speeds. Highest ram speeds in the market for electric machines.
 - Very high ram acceleration – deceleration. Unique servo motor technology.
 - Shortest possible change of high to low speed with RapidBend Ultimate.
 - Quick change tooling system, customizable UI, off line programming etc.



✓ SAVE THE PLANET

- Less energy used – reduced CO₂ emissions
- Absence of oil – less scrap
- High reliability – less spare parts production



PRODUCT RANGE

➤ Boschert-Gizelis' combined product range covers a large variety of machines, necessary for the sheet-metal processing industry, such as press brakes, shears, punching and notching machines, combined machines, portal type oxy and plasma cutting as well as laser-cutting machines. On top of these, Boschert-Gizelis Group can manufacture specially-made machines upon request.



ELECTRO CUT



ELECTRO BRAKE



GFLEH series



GBEND plus series



GCUT series



FIBER LASER



ROBOBEND



PUNCHING

After-Sale Services

- Teleservice **5 days a week.**
- Service stations **5 days a week.**
major geographical areas:
 - Germany
 - Greece
 - France
 - Poland
 - Croatia (Balkan countries)
 - Russia
 - India
 - Thailand
 - USA
 - GCC countries
(Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, UAE)

ONE GROUP
ONE DEAL
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NO OIL
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