



schiaavi 
bending the future

PRESS BRAKES MADE IN ITALY SINCE 1958

PRESS BRAKES AND AUTOMATION



VISION AND MISSION

Schiavi Macchine International: Made in Italy, history, technology since 1958.

Quality and long-term reliability are the two values on which Schiavi Macchine has built its business and through which it confirms its success. These two values are the basis of an excellent customer service, which ensures continuous training, prompt action both before and after sales and an advanced technical knowledge of design; Moreover, it has an exceptional Research and Development program designed to enhance the products and increase the internal know-how. The goal of Schiavi Macchine is to complete the internationalization program, solidly maintaining its technological assets and confirming itself as a benchmark in its sector, always offering advanced machines and solutions. The mission of Schiavi Macchine is to ensure an ever-growing level of customer satisfaction, guaranteed by a first-class product. The excellence of the “Made in Italy” and the continuous research in innovation and technology promotes strategic partnerships with leading international dealers, creating essential bonds for the development of the brand. Schiavi Macchine is proud to have installed over 14.000 machines since its foundation. The company is strongly investing in automation systems both for bending processes and for cutting.

The major competitive advantage of Schiavi Macchine is the ability to manage the entire clients manufacturing process: from customizable patented machinery to more sophisticated controls, from automation of bending and cutting operations to offline programming with real-time synchronization.

A family-run company: with values in which we take pride

In 2014 the Zinetti family, which has been working in the sheet metal sector for over thirty years, took over Schiavi and founded Schiavi Macchine International having as its main goal to export the excellence of the “Made in Italy”.

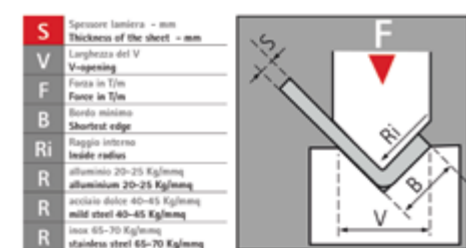
Maurizio Zinetti started his career in the sheet metal industry in the early 'eighties inserted and sustained by his father Virginio. His sons Elia and Nicolò Zinetti, now general managers of the Schiavi Macchine company, are the third generation of a business based on solid family values: respect, responsibility, dedication and punctuality.

AIR BENDING TABLE - MILD STEEL

S	4	6	7	8	10	12	14	16	18	20	25	32	40	50	63	80	100	125	160	200	250	V	
mm	2,8	4	5	5,5	7	8,5	10	11	13,5	14	17,5	22	28	35	45	55	71	89	113	140	175	8	
	0,7	1	1,1	1,3	1,6	2	2,3	2,6	3	3,3	4	5	6,5	8	10	13	16	20	26	33	41	Ri	
0,5	4	3																					
0,6	6	4	4	4																			
0,8	7	7	5	4																			
1		11	10	8	7	6																	
1,2			14	12	10	8	7	6															
1,5				20	17	15	13	11	10	9													
2						22	19	17	15	13	11												
2,5							28	25	22	18	14												
3								34	30	24	19	15											
3,2									34	27	22	17	14										
3,5										33	26	20	16	13									
4											43	34	27	21	17								
4,5												44	34	27	21								
5													52	42	33	26	21						
6														60	48	38	30	24					
8															107	85	68	53	43				
10																85	67	53	42				
12																	96	78	60	55			
15																		150	120	95	75		
20																			215	170	135	108	
25																					210	170	
30																						240	

AIR BENDING TABLE - STAINLESS STEEL

S	4	6	7	8	10	12	14	16	18	20	25	32	40	50	63	80	100	125	160	200	250	V	
mm	2,8	4	5	5,5	7	8,5	10	11	13,5	14	17,5	22	28	35	45	55	71	89	113	140	175	8	
	0,7	1	1,1	1,3	1,6	2	2,3	2,6	3	3,3	4	5	6,5	8	10	13	16	20	26	33	41	Ri	
0,5	6	5																					
0,6	9	6	6	6																			
0,7	12	8	8	6	6																		
0,8		11	11	8	7																		
0,9			13	12	10	8	7																
1				17	15	12	11	8															
1,2					21	18	15	12	11	9													
1,5						20	17	15	13	12													
2							33	29	26	23	20	17											
2,5								39	35	30	25	19											
3									51	45	36	29	23										
4										65	51	41	32	26									
5											78	63	50	39	32								
6												90	72	57	45	36							
8													102	81	65	51							
10														129	101	80	63						
12															144	117	90	83					
15																180	141	114					
20																	250	208	167				
25																			315	255			
30																						360	



Relazione tra spessore lamiera e larghezza V
Sheet thickness/V-shape width ratio

S	Spessore lamiera - mm	0,5-2,5	3-8	9-10	12 o più
V	Larghezza del V - mm	6 5	8 5	10 5	12 5
F	Forza in Tm				
B	Bordo minimo Shortest edge				
Ri	Raggio interno Inside radius				
R	alluminio 20-25 kg/mmq				
R	aluminium 20-25 kg/mmq				
R	acciaio dolce 40-45 kg/mmq				
R	mild steel 40-45 kg/mmq				
R	inox 65-70 kg/mmq				
R	stainless steel 65-70 kg/mmq				

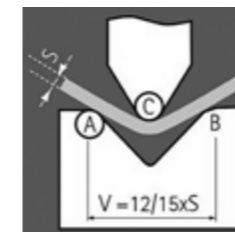
$$F = \frac{S^2 \times 2 \times R}{1,4 \times V} \text{ ton/m}$$

BENDING

Air bending

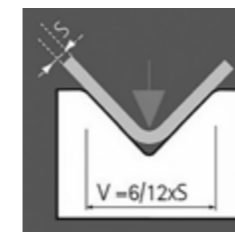
It is the most common bending method requiring a relatively low pressure, but the angle precision is affected by material elasticity once the bending is completed.

Air bending is divided into:



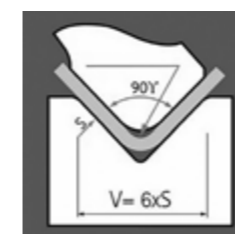
Partial bending

This is a method in which the bending stops before sheet comes to the die bottom. The sheet contacts the tool in A – B – C points (as indicated in the picture) and the bending angle is determined by the position of such points. This bending method preferably requires a V – width of 12 or 15 times sheet thickness. Pressure values indicated in the pressure table are indicative, as in this method the pressure varies according to many factors, such as material features, tool type and profile, etc.



Bottoming

In this bending method, the inner radius obtained is called “natural bending radius” and is equal to 1/6 of V – width approximately. A inner radius equal to thickness can be obtained by using a die with a V-width of 6 times sheet thickness. In case of 90° bendings, 88° dies can be used to compensate material elasticity. The required pressure is indicated in pressure table. This bending method is generally used for sheets up to 2-3 mm thickness.



Coining

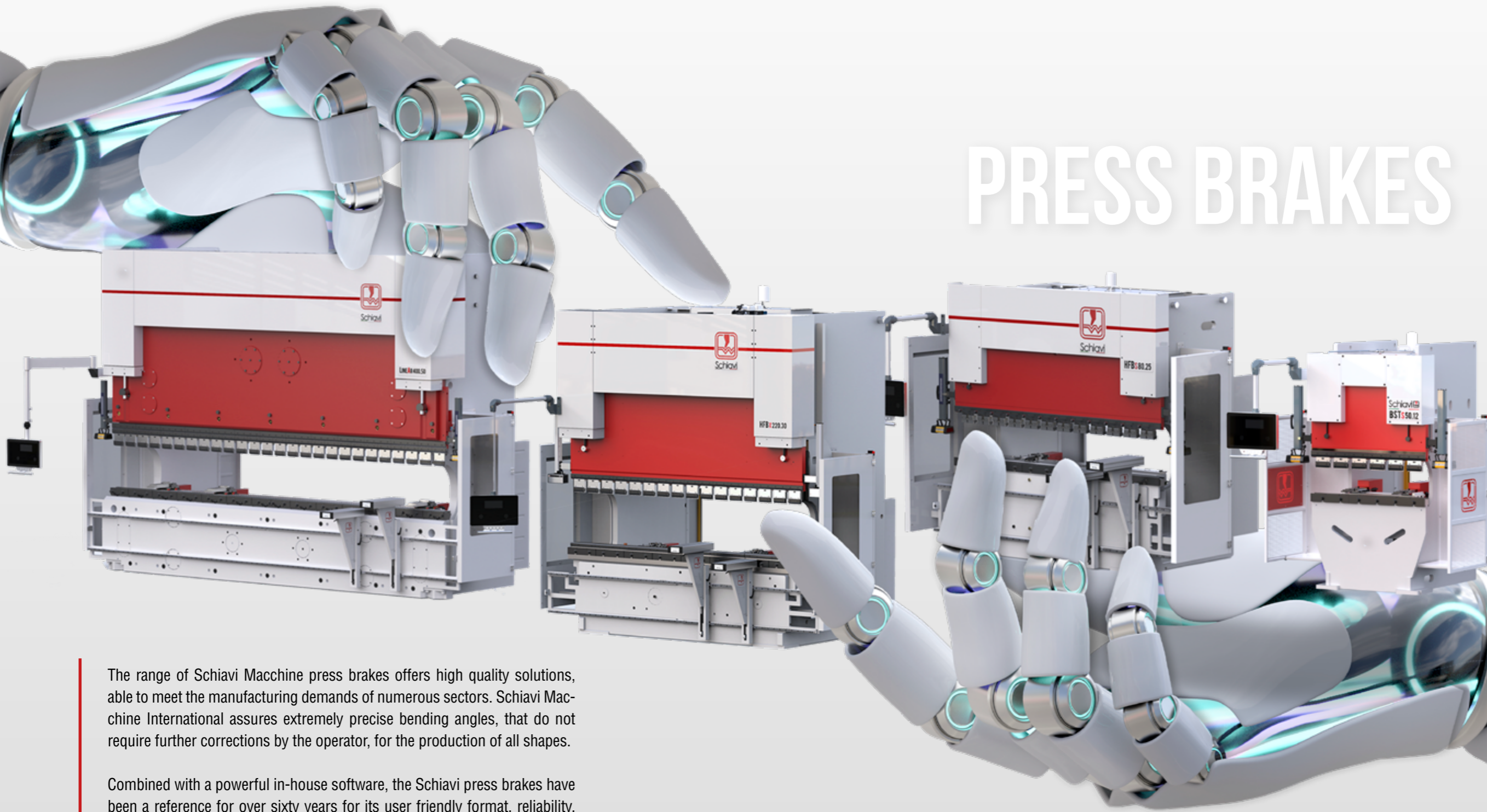
This is a bottom pressing bending method requiring a very high pressure, 4/5 times higher than the ones required in bottoming. The bending precision is very good, as the inner radius coining cancels the material springback. Through this bending method, it is possible to obtain bending inner radius lower than sheet thickness and the elimination of remaining elasticity. This happens as a consequence of penetration of the punch tip into the die bottom in natural bending radius of sheet metal.

Die has a V – width of 6 times sheet thickness and is at 90° as well as punch.

Coining is generally used on sheets up to 2 mm thickness and, in some cases, up to 3 mm thickness.

Punch angle is very important only in case of coining.

PRESS BRAKES



The range of Schiavi Machine press brakes offers high quality solutions, able to meet the manufacturing demands of numerous sectors. Schiavi Machine International assures extremely precise bending angles, that do not require further corrections by the operator, for the production of all shapes.

Combined with a powerful in-house software, the Schiavi press brakes have been a reference for over sixty years for its user friendly format, reliability, precision and low-cost maintenance.

ENERGY SAVING

up to

40%

SPEED INCREASE

up to

30%

DRASTIC REDUCTION
OF NOISE
POLLUTION

HYBRID PRESS BRAKES: MEASURABLE ADVANTAGES

Schiavi Macchine has developed a range of hybrid Press Brakes to reduce the environmental impact during the production processes.

This concept comes from the need to lower energy consumption, with the new Schiavi Macchine Hybrid that can be reduced by 40%. Which is a great advantage in production, since the speed of the process considerably increases, moreover, there has been a drastic decrease in noise pollution in plants where we have installed the hybrid version.

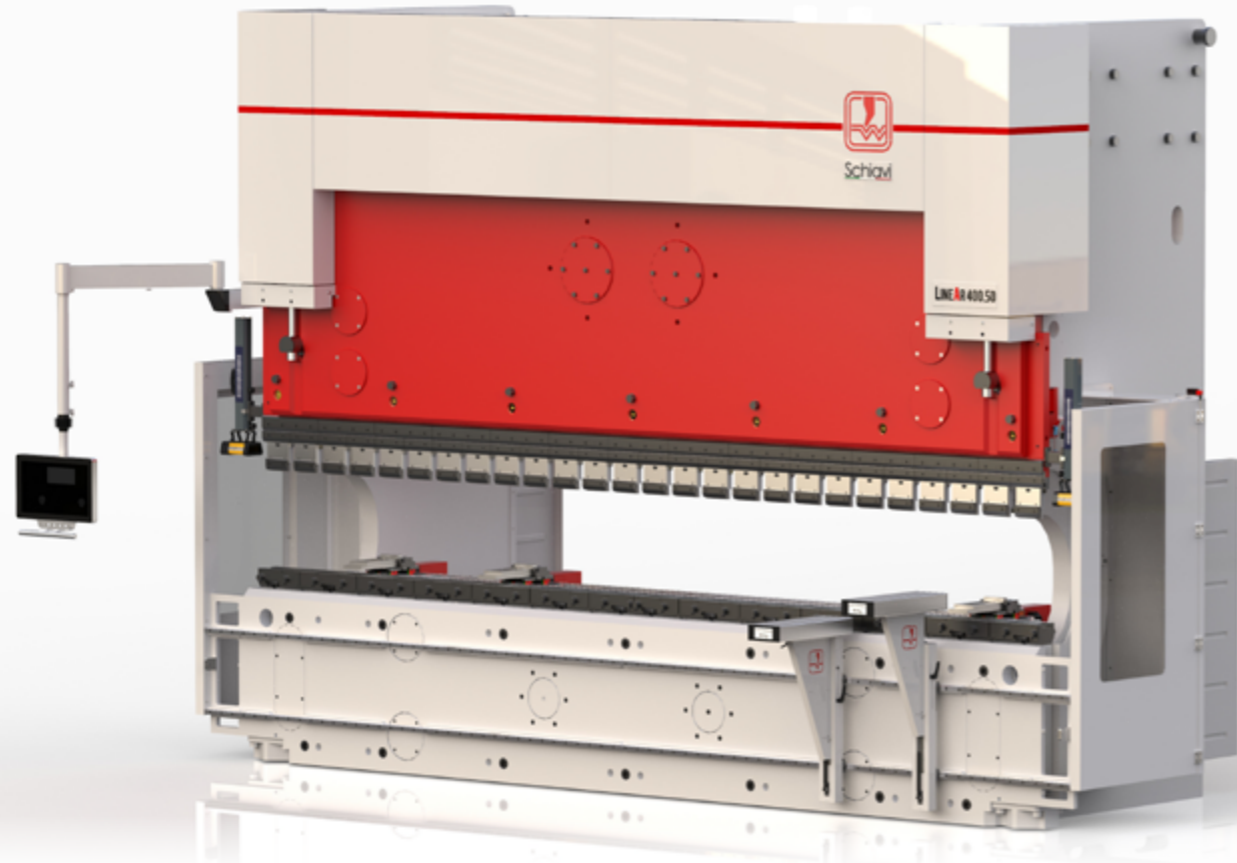
PRESS BRAKES

HYBRID

The green generation of bending

LINEAR

THE BENDING EVOLUTION



The **LineAr** is the top of the Schiavi range: a press brake that revolutionizes the world of bending by **eliminating the canoe effect** with an internationally **patented solution that keeps the tool holder tables perfectly horizontal and parallel, ensuring an absolute linearity of the profile.**

The LineAr is especially recommended for those who require maximum precision of interlocking profiles or to facilitate subsequent procedures such as welding or manual and robotic assembly. LineAr is a synonym of **speed**, top **quality** and strong bending force.

The LineAr range varies from 3 m 130 ton to 12 m 1200 ton.



HYBRID VERSION



SERVICE



ASSISTENZA



BENEFITS

CROWNING FREE SYSTEM

With the patented LineAr system, the tables do not deform during the bending process, guaranteeing the linearity of the product, which is extremely advantageous for those who produce interlocking profiles, or to facilitate subsequent processing as assembly or welding (robotic and manual).

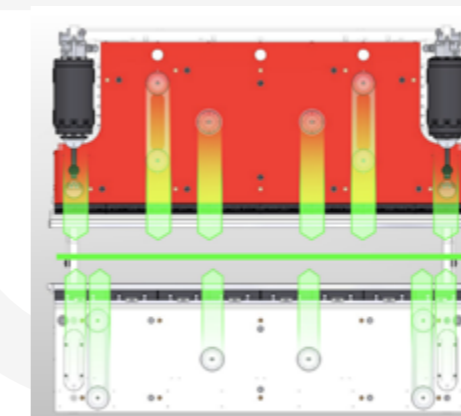
CHARACTERISTICS

- On-line assistance & Help Desk
- Removal of crowning
- Gooseneck
- ATLAS & ATLAS Pro
- Schiavi TXP - Cambio Utensili Automatico Bending System
- Efficiency
- LineAr Plus
- Schiavi Macchine Specialized Service

Available in **HYBRID** version
(speed up to 300 mm/s)

CUSTOMISATION AND AUTOMATION

LineAr expands the range of customization options, available software and integration with automatic systems. Safety systems that guarantee speed, back gauge systems for up to 12 axes, operator assistance systems such as sheet metal supports, as well as anthropomorphic robots, all managed by the entire Task office software range.



PRECISE AND "GOOSENECK" CENTRING

The upper table is carried by 4 pairs of bearings that slide on hardened, rectified steel guides that are integrated with the machine sides. Table centring and alignment is guaranteed by the large distance between the upper and lower bearings. Through the innovative use of an additional "Gooseneck," it is possible to accurately measure the distance between the tables, regardless of the structural deflection typical of the bending process.



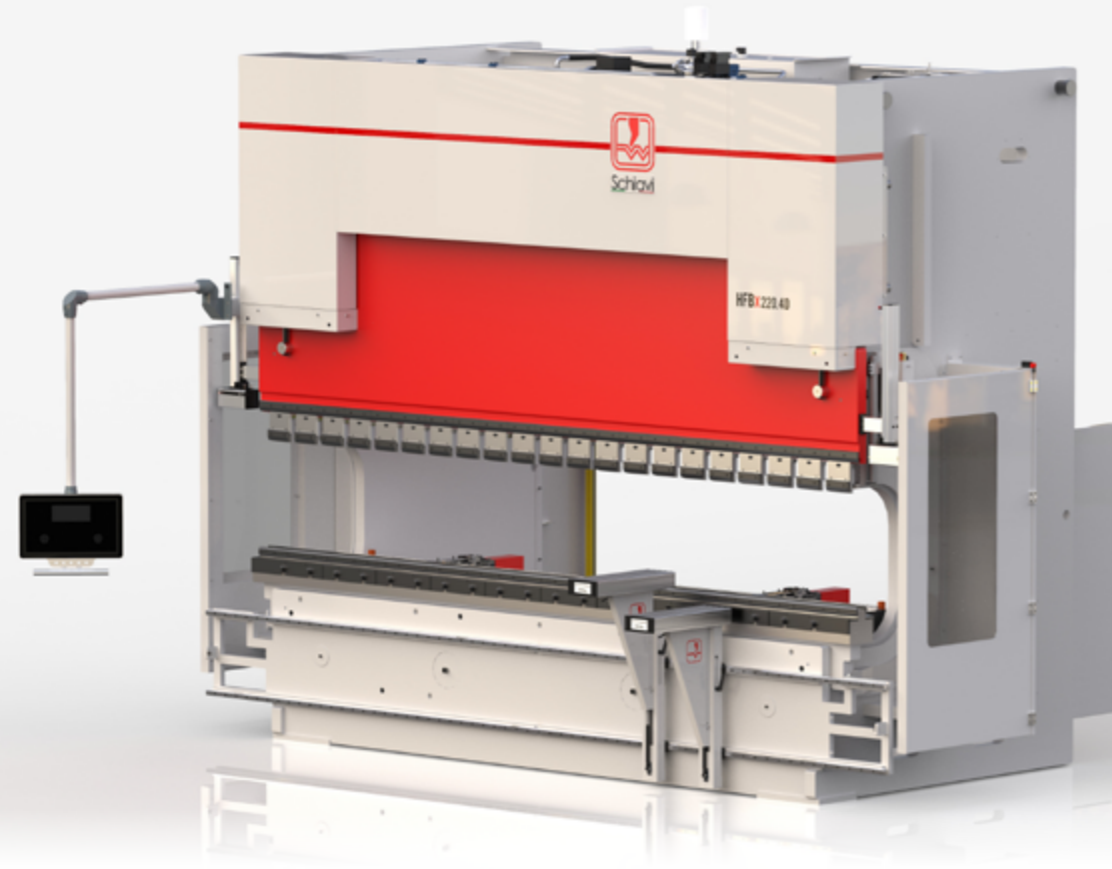
SCHIAVI MACCHINE INTERNATIONAL is specialised in the construction of bending machines made to measure according to your requirements. With the LineAr nothing is impossible.

LINEAR MODEL		130.30	220.40	220.50	250.60	400.40	400.50	400.60	630.40	630.60	630.70	800.60	1000.60	1000.80	1000.10	12000.12
BENDING FORCE	kN	1.300	2.200	2.200	2.200	4.000	4.000	4.000	6.300	6.300	6.300	8.000	10.000	10.000	10.000	12.000
LINEAR PLUS OPTIONAL *	*	*	*	*	*	*	*	*	-	-	-	-	-	-	-	-
BENDING LENGTH	mm	3.200	4.200	5.200	6.200	4.200	5.280	6.280	4.200	6.200	7.200	6.200	6.300	8.300	10.300	12.300
DISTANCE BETWEEN SHOULDERS	mm	2.850	3.700	4.700	5.520	3.520	4.520	5.520	3.520	5.520	6.520	5.490	5.520	7.520	9.520	11.520
THROAT DEPTH	mm	450	450	450	520	520	520	520	520	520	520	520	510	520	520	520
MAX STROKE	mm	320	320	450	450	450	450	450	400	450	400	400	400	400	400	400
MAX OPENING	mm	600	600	750	750	750	750	750	750	750	750	750	900	900	900	900
WORKING LEVEL HEIGHT	mm	935	977	1.015	1.020	990	1.020	1.020	1.010	973	905	850	895 custom	910	910	820
TABLE WIDTH	mm	60	60	60	90	60	120	60	100	60	60	60	120 custom	60	100	100
NUMBER OF INTERMEDIATES	n°	15	21	26	31	21	26	31	21	31	36	31	31	42	52	62
APPROACH SPEED	mm/s	200	220	150	150	120	90	140	120	100	100	100	90	80	80	80
ADJUSTABLE WORK SPEED	mm/s	1-10	1-10	10	1-10	1-10	1-10	1-10	1-10	1-10	1-10	1-10	1-10	1-10	1-10	1-10
RETURN SPEED	mm/s	200	200	120	104	115	100	130	60	60	60	100	60	60	60	60
MOTOR POWER (3-PHASE 380V 50HZ MOTOR)	KW	18,5	22	22	22	37	37	37	37	37	37	75	90	90	90	90
INVERTER POWER	KW	18,5	22	22	22	37	37	37	37	37	37	75	110	110	110	110
APPROXIMATE WEIGHT	kg	12.300	22.000	26.100	28.000	23.500	34.550	40.000	41.000	55.000	70.000	87.000	100.000	110.000	145.000	200.000
OVERALL LENGTH	mm	4.120	5.060	6.100	7.850	4.900	5.906	6.900	5.700	6.980	8.700	7.320	8.300	9.700	11.700	13.700
OVERALL WIDTH	mm	2.270	2.050	1.840	2.150	2.136	2.350	2.272	2.450	2.450	2.450	2.600	3.522	2.850	2.850	3.000
OVERALL HEIGHT	mm	3.200	3.405	3.900	3.800	3.827	4.080	4.092	4.420	4.630	4.315	4.750	4.740	4.750	5.060	5.200
UNDERGROUND SECTION BEAM	mm	-	-	-	-	-	-	-	-	560	850	1000	975	1.050	1.525	2.000
UNDERGROUND SECTION COLUMN	mm	-	-	-	-	-	-	-	-	-	-	390	560	490	375	985

Note: The technical specifications are subject to variations. If necessary, please contact the reference staff.

HFBX

PERFORMANCE AND FLEXIBILITY



Schiavi **HFBx** press brakes represent the most versatile model in automated bending processes. High performance: approach and return speed up to 250 mm/s.

Complete flexibility: It's extremely high performance is characterised by a large stroke (500 mm) and span of 800mm (up to 1000 mm upon request). The wide span between the tables makes the production of large-sized boxed sections possible while maintaining a high processing speed. The HFBx has been designed to facilitate the withdrawal and removal of complex profile parts and is particularly suitable for robotic solutions.



HYBRID VERSION



SERVICE



ASSISTENZA



ADVANTAGES

COMPOUND LOWER TABLE

The compound lower table is protected by an international patent and, maintaining the classical principal of lateral cylinders that move the upper table, allow the correction and automatic cancellation of table deformations, ensuring the parallelism. The distance of the tools during the bending remains constant along the entire length of the bending, thus ensuring a result of excellent quality.

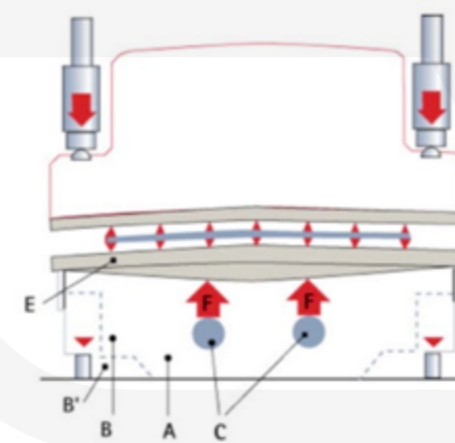
CHARACTERISTICS

- Natural compensation
- Gooseneck
- Schiavi TXP - Automatic Tool Changer
- ATLAS & ATLAS pro
- Bending System
- Efficiency
- Schiavi Macchine Specialized Service

Available in **HYBRID** version
(speed up to 300 mm/s)

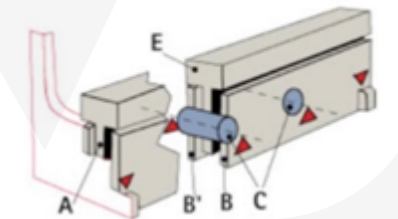
STANDARD 8 AXES

The HFBx range is equipped with standard rear mechanics (X1-X2-R1-R2-Z1-Z2) to provide maximum flexibility for the operator. X4, X5 are provided as an option, or a rear mechanical tower device.



PRECISE AND "GOOSENECK" CENTRING

The upper table is carried by 4 pairs of bearings that slide on hardened, rectified steel guides that are integrated with the machine sides. Table centring and alignment is guaranteed by the large distance between the upper and lower bearings. Through the innovative use of an additional "Gooseneck," it is possible to accurately measure the distance between the tables, regardless of the structural deflection typical of the bending process.



MODEL HFBX		130.30	130.40	170.30	170.40	220.30	220.40
BENDING FORCE	kN	1.300	1.300	1.700	1.700	2.200	2.200
BENDING LENGTH	mm	3.140	4.200	3.170	4.280	3.220	4.280
DISTANCE BETWEEN SHOULDERS	mm	2.700	3.760	2.700	3.760	2.700	3.760
THROAT DEPTH	mm	420	420	420	520	520	520
MAX STROKE	mm	500	500	500	500	500	500
MAX OPENING	mm	800	800	800	800	800	800
WORKING LEVEL HEIGHT	mm	960	960	960	960	960	960
TABLE WIDTH	mm	90	180	180	180	180	180
NUMBER OF INTERMEDIATES	n°	15	21	16	21	16	21
APPROACH SPEED	mm/s	250	250	240	240	240	240
ADJUSTABLE WORK SPEED	mm/s	1-10	1-10	1-10	1-10	1-10	1-10
RETURN SPEED	mm/s	250	250	220	220	220	220
MOTOR POWER (3-PHASE 380V 50HZ MOTOR)	kW	15	15	18,5	22	22	22
INVERTER POWER	kW	15	15	18,5	22	22	22
APPROXIMATE WEIGHT	kg	14.200	15.800	14.408	22.800	20.500	22.600
OVERALL LENGTH	mm	4.200	5.040	4.000	5.070	4.200	5.070
OVERALL WIDTH	mm	2.150	2.150	2.500	2.200	2.200	2.600
OVERALL HEIGHT	mm	3.990	3.990	4.000	4.310	4.300	4.0000

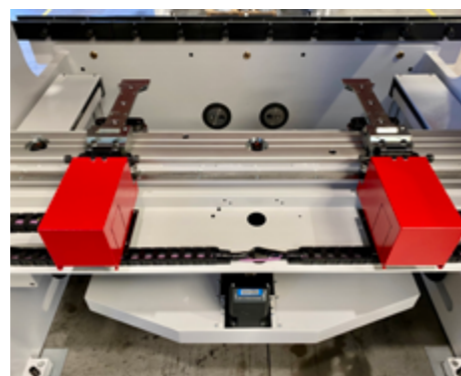
Note: The technical specifications are subject to variations. If necessary, please contact the reference staff.

HFBS

PERFORMANCE AND RELIABILITY



The HFBS press brake is the perfect solution for customers who require impeccable bending accuracy and large-scale production. HFBS ensure high versatility and flexibility with excellent results in the production of different thickness sheet parts. The HFBS model, combined with special hydraulics and state of the art software, offers companies operating in sheet metal machining the perfect means for increasing their competitiveness.



HYBRID VERSION



SERVICE



ASSISTENZA

ADVANTAGES

MODULAR LOWER TABLE

The internationally patented lower modular table maintains the traditional concept of side cylinders which move the upper table, allowing for automatic correction and compensation of table deformations, ensuring its parallelism. The distance between the tools remains constant during bending along the entire bending length, guaranteeing excellent quality results.

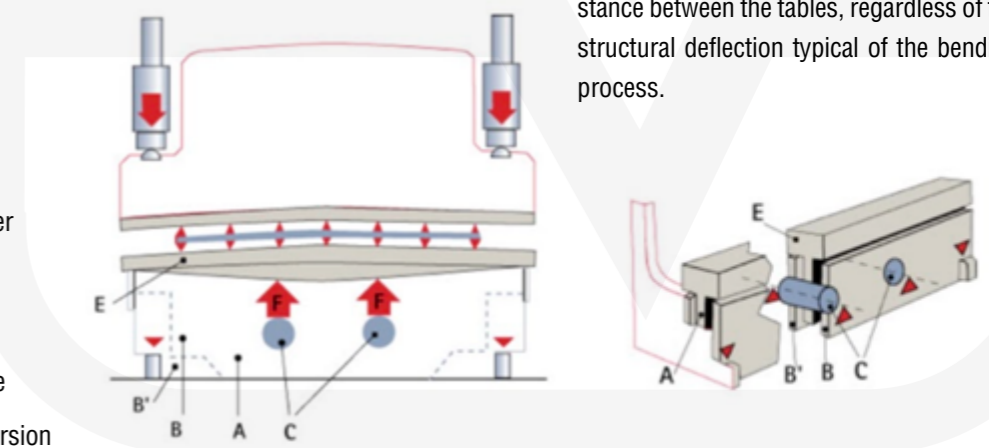
CHARACTERISTICS

- Natural compensation
- Gooseneck
- Schiavi TXP - Automatic Tool Changer
- ATLAS & ATLAS pro
- Bending System
- Efficiency
- Schiavi Macchine Specialized Service

Available in **HYBRID** version
(speed up to 300 mm/s)

RELIABILITY

HFBS is a reference because of its very high production capacity, simple to use, reliability and low maintenance costs. HFBS has been a benchmark for over thirty years. Today, with our in-house software "Task", HFBS can be customized or be integrated into standard robotic cells.



PRECISE AND "GOOSENECK" CENTRING

The upper table is carried by 4 pairs of bearings that slide on hardened, rectified steel guides that are integrated with the machine sides. Table centring and alignment is guaranteed by the large distance between the upper and lower bearings. Through the innovative use of an additional "Gooseneck," it is possible to accurately measure the distance between the tables, regardless of the structural deflection typical of the bending process.

MODEL HFBS		80.25	125.30	125.40	170.30	170.40	220.30	220.40
BENDING FORCE	kN	800	1.250	1.250	1.700	1.700	2.200	2.200
BENDING LENGTH	mm	2.550	3.140	4.200	3.1700	4.280	3.220	4.280
DISTANCE BETWEEN SHOULDERS	mm	2.120	2.700	3.760	2.700	3.760	2.700	3.760
THROAT DEPTH	mm	405	420	420	420	420	420	420
MAX STROKE	mm	250	250	250	250	250	250	250
MAX OPENING	mm	455	500	500	500	500	500	500
WORKING LEVEL HEIGHT	mm	910	960	960	960	960	960	960
TABLE WIDTH	mm	60	90	180	180	180	180	180
NUMBER OF INTERMEDIATES	n°	12	15	21	16	21	16	21
APPROACH SPEED	mm/s	200	180	180	180	180	180	180
ADJUSTABLE WORK SPEED	mm/s	1-10	1-9	1-9	1-9	1-9	1-9	1-9
RETURN SPEED	mm/s	130	120	120	120	120	120	120
MOTOR POWER (3-PHASE 380V 50HZ MOTOR)	kW	5,5	9	9	14	11	15	15
INVERTER POWER	kW	11	11	11	11	11	15	15
APPROXIMATE WEIGHT	kg	6.000	8.425	12.800	12.500	23.230	24.000	20.659
OVERALL LENGTH	mm	3.400	4.000	5.200	4.000	5.260	4.200	5.060
OVERALL WIDTH	mm	2.040	2.201	1.800	2.241	1.800	1.840	2.181
OVERALL HEIGHT	mm	2.800	3.000	3.080	3.200	3.210	3.240	3.240

Note: The technical specifications are subject to variations. If necessary, please contact the reference staff.

BSTs

POWERFUL SIMPLICITY



The **BSTs** range guarantees safety and flexibility in a competitive package. The range has been designed for simple and fast bending but also offers the accuracy and constancy synonymous with the Schiavi name. Equipped with rear mechanics (X-R) and a dedicated Task SK12 CNC, the models range from 500 kN - 1.2 metres to 1250 kN - 4 metres.



HYBRID VERSION



SERVICE



ASSISTENZA



ADVANTAGES

MODULAR LOWER TABLE

The internationally patented modular lower table maintains the traditional concept of side cylinders which move the upper table, allowing for automatic correction and compensation of table deformations, ensuring its parallelism. The distance between the tools remains constant during bending along the entire bending length, guaranteeing excellent quality results.

CHARACTERISTICS

Natural compensation

Efficiency

Schiavi Macchine Specialized Service

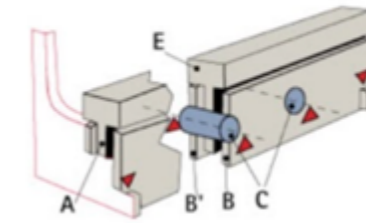
Available in **HYBRID** version*

*only model 50.12

(speed up to 300 mm/s)

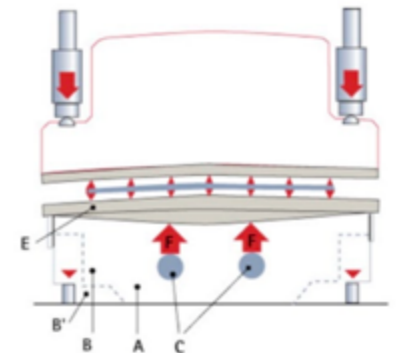
TASK SK12: NUMERICAL CONTROL SYSTEM

BSTs presses are equipped with a SK12 computerised numerical control with internal microprocessor operation. The SK12 CNC is the compact model of the range and is built with all the criteria of the latest technological developments. It is the ideal solution for 4-AXIS (X – R – Y1 – Y2) press brakes. Speed and ease aid the operator during bending. A 2D automatic bending sequence search can be installed upon request. It is possible to connect the SK12 to the company's network and to the bending system programming office.



PRECISE AND "GOOSENECK" CENTRING

The upper table is carried by 4 pairs of bearings that slide on hardened, rectified steel guides that are integrated with the machine sides. Table centring and alignment is guaranteed by the large distance between the upper and lower bearings. Through the innovative use of an additional "Gooseneck," it is possible to accurately measure the distance between the tables, regardless of the structural deflection typical of the bending process."



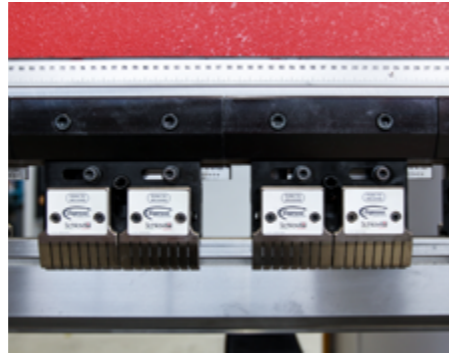
MODEL BSTS		50.12	50.20	80.25	125.30	125.40
BENDING FORCE	kN	500	500	800	1.250	1.250
BENDING LENGTH	mm	1.250	2.090	2.550	3.140	4.200
DISTANCE BETWEEN SHOULDERS	mm	850	1.560	2.120	2.700	3.760
THROAT DEPTH	mm	405	405	405	420	420
MAX STROKE	mm	150	150	200	200	200
MAX OPENING	mm	350	350	400	400	400
WORKING LEVEL HEIGHT	mm	900	910	910	960	960
TABLE WIDTH	mm	60	60	60	90	180
NUMBER OF INTERMEDIATES	n°	6	10	12	15	21
APPROACH SPEED	mm/s	150	150	150	150	150
ADJUSTABLE WORK SPEED	mm/s	1-9	1-9	1-9	1-9	1-9
RETURN SPEED	mm/s	80	135	120	120	120
MOTOR POWER (3-PHASE 380V 50HZ MOTOR)	kW	3	3	7,5	11	11
APPROXIMATE WEIGHT	kg	3.700	5.500	5.600	7.500	10.600
OVERALL LENGTH	mm	2.100	2.870	3.200	3.880	5.000
OVERALL WIDTH	mm	1.370	1.560	1.830	2.233	2.233
OVERALL HEIGHT	mm	2.410	2.410	2.590	2.833	2.833

Note: The technical specifications are subject to variations. If necessary, please contact the reference staff.

TOOLS

Schiavi Macchine has a wide range of punches and dies, focal point of the press brakes and metal bending processes.

The Schiavi Macchine tools are constructed using very high-quality steel, they are induction hardened in the zones submitted to wear and have a high standard of surface finish. They guarantee perfect alignment and precision also after regular use.



BACK GAUGE



MPS-CZ

X axes positioning precision = 0.1 mm
 R axes positioning precision = 0.1 mm
 Z axes positioning precision = 0.2 mm
 X axes maximum speed = 500 mm/s
 Z axes maximum speed = 1250 mm/s
 R axes maximum speed = 120 mm/s
 X stroke = 600 mm
 R stroke = 150 mm



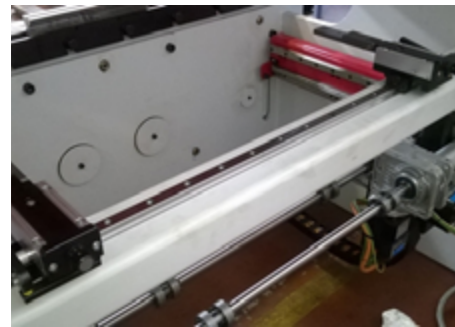
MPS-H

X axes positioning precision = 0,05 mm
 R axes positioning precision = 0,05 mm
 Z axes positioning precision = 0,1 mm
 X axes maximum speed = 550 mm/s
 Z axes maximum speed = 1500 mm/s
 VX axes maximum speed = 160 mm/s
 X stroke = 700 mm
 R stroke = 250 mm



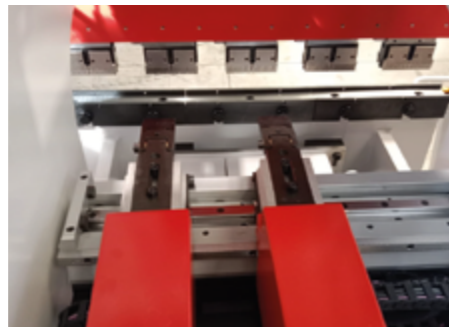
MPS8

X1 - X2 axes positioning precision = 0,1 mm
 R1 - R2 axes positioning precision = 0,1 mm
 Z1 - Z2 axes positioning precision = 1,0 mm
 X1 - X2 axes maximum speed = 500 mm/s
 Z1 - Z2 axes maximum speed = 500 mm/s
 R1 - R2 axes maximum speed = 4300 mm/s
 X stroke = 1000/800 mm
 R stroke = 250 mm



MPS3

Y axes positioning precision = 0,01 mm
 X / R axes positioning precision = ±0,05 mm
 X axes maximum speed = 500 mm/s
 R axes maximum speed = 120 mm/s
 Z = manuals
 X stroke = 600 mm
 R stroke = 150 mm



MPS1

AXIS X
 Repeatability = ±0,02 mm
 General precision = ±0,05 mm
 X axes maximum speed = 500 mm/s
 Stroke = 500 mm
 AXIS R
 Repeatability = ±0,05 mm

General precision = ±0,1 mm
 R axes maximum speed = 140 mm/s
 Stroke = 140 mm
 AXIS Z1-Z2
 Repeatability = ±0,15 mm
 General precision = ±0,2 mm
 X axes maximum speed = 500 mm/s
 Z axes maximum speed = 2200 mm/s

OUR SPECIALISED SERVICE

Thanks to the preparation and experience of our technicians we guarantee an efficient and professional after-sales service. We offer maintenance, repairs, overhauls, retrofit on press brakes, shears and numeric controls.

Schiavi Macchine guarantees efficient assistance to the customer. which is as fundamental as the quality of our products.

We are always available, with an instantaneous ticketing system to mail service@schiavimacchine.it and with a dedicated help line during office hours contacting +39 035 4242432 or Whatsapp +39 324 0003619.



TECHNICAL SERVICE

Speed, experience and efficiency: these are the features of our Service Team, that acts with care and dedication to solve your problems. Our target is to provide maximum quality of service and assistance, so as to maintain your operations productive and profitable.



RETROFIT

The retrofit is the best and most economic way to give new life to your machinery. We offer retrofitting service on the Schiavi Macchine machines and CNC, with the goal of regenerating the bending machine with a modern numeric control, that can be integrated with the office software. Moreover, we replace the associated front and rear safety systems with the latest generation systems to prevent accidents.



MAINTENANCE

We offer services that protect your investment and build your success: a technical assistance and maintenance service of guaranteed quality and functionality, for the electronics, mechanical parts and numeric control.

TASK AUTOMATION



STORAGE SYSTEM

This plant has the task of storing packs of metal sheets with maximum dimensions of 3000x1500 mm, arranged on pallets managed automatically by the CNC or manually by the operator. An elevator arranged centrally between the two towers moves the pallets toward the shuttle and onto the loading-unloading bay.

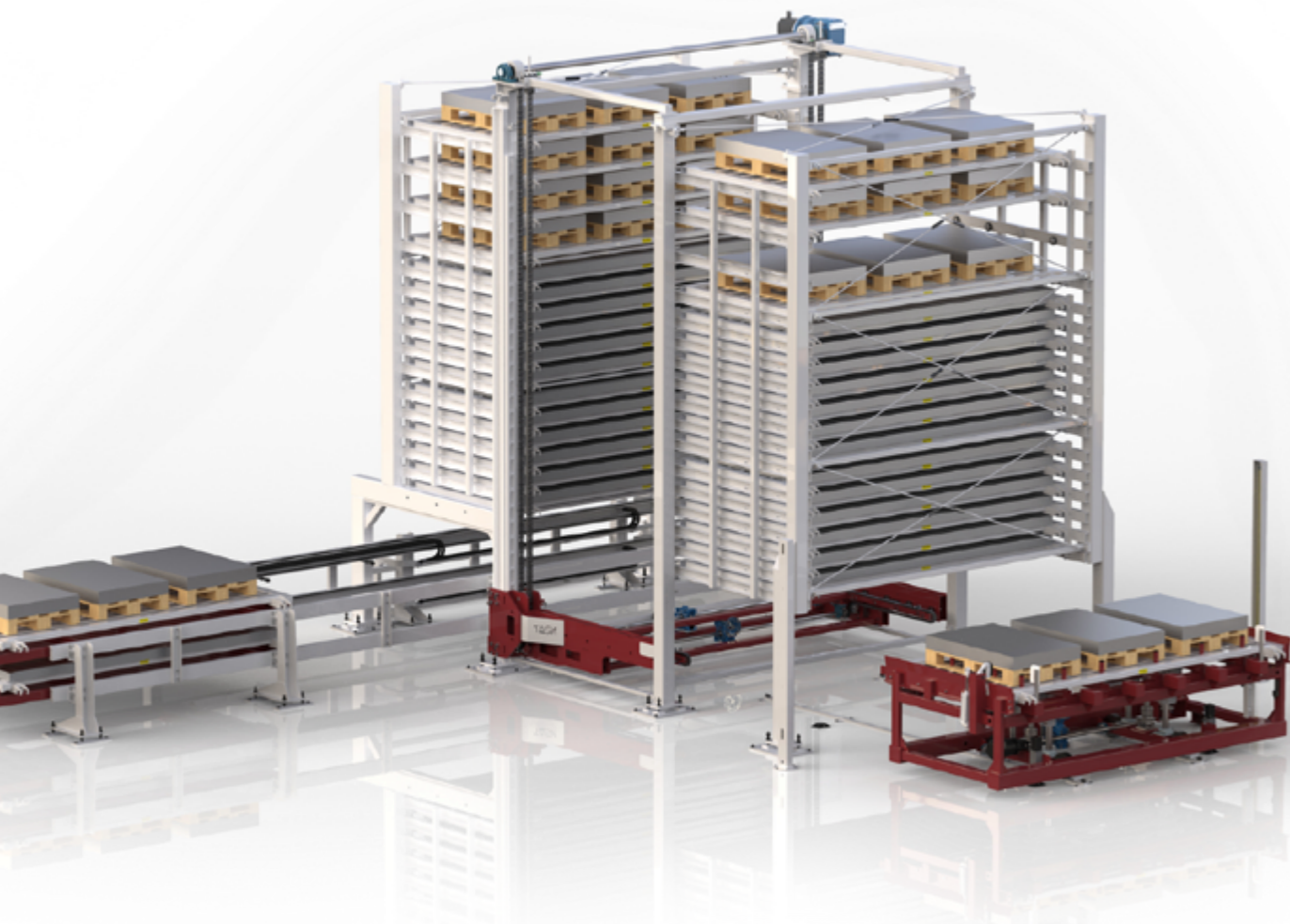
A brushless motor controlled by PLC moves the elevator, ensuring excellent precision of location values as well as speed and acceleration management that optimize the loading and unloading cycles. The warehouse has mechanical safety systems to prevent: 1) falling of the elevator in the event of failure or lack of power supply, 2) Falling of pallets from the tower in case they're not aligned with the entrainer.

The structure of the warehouse consists of a robust steel frame, able to sustain the maximum load weight.

The two shuttles that serve the robotic cell carries two pallets from the storage system: one for the blanks and one for the finished goods. The shuttles can position themselves in the loading and unloading bays.

Proper optical control systems check that the pallet loads are always compliant to the specifications before taking them to their corresponding place in stock.

The manual load/unload shuttle is used for the entry of the packs of blank metal sheets into the system and the exit of the finished parts. It is positioned under the warehouse, protruding towards the operator area, to allow loading and unloading. A system of mobile struts stacks the metal sheets onto packs, without a pallet, to take full advantage of the usable height available on the site where the plant is installed.



TECHNICAL DATA

Metal sheet:

Max manipulable format: 3,048 x 1,524 mm

Thickness: 0.5 – 25 mm

Warehouse:

Type: Double Tower

Capacity: according to customer requirements

Height of plant: 5,900 mm

Blank pallets:

Maximum load: 3,000 Kg

Max height of metal sheet pack on loading area: 85 mm

Finished pallets:

Maximum load: 3,000 Kg

Max. height of metal sheet pack on unloading area: 270 mm (including pallet)

Elevator:

Maximum load: 3,000 Kg

Speed of "Z" axis: 10 m/min.

Pallet chain transfer unit:

Entry station

Type: shuttle with automatic struts

Max. load: 3,000 Kg

Sheet metal location: both sides - mobile

Automatic struts with vertical motion

Automatic sheet metal warehouse: dimensions 3000 x 1500 mm, structure with one or more towers per number of pallets required by customer; two shuttles to serve robotic plant for loading-unloading of laser machines and a manual load-unload shuttle with mobile strut.

NOTE: Two tower example at Simonazzi and very high single tower example at OLVAN

COMPOSITION

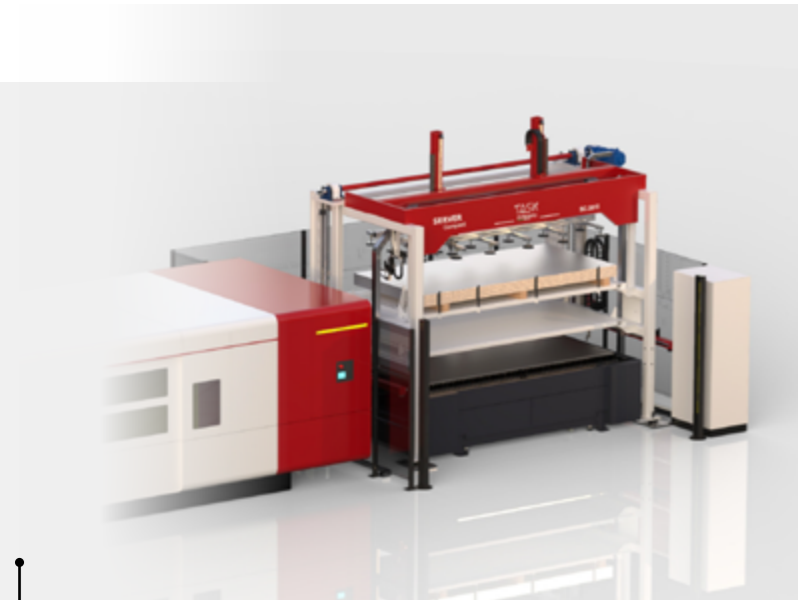
- 1 main tower with craneways to elevator
- 1 secondary storage tower
- 1 central elevator that serves both towers
- X number of pallets per metal sheet, maximum load 3 ton
- 1 shuttle with automatic struts and front exit
- 1 group of two shuttles to feed robotic cell
- 1 electric cabinet with remote operator panel
- 1 set of enclosures and optical protections.



SERVER COMPACT

The Server Compact is a system used to load/unload metal sheets from the "Pallet-Change" tables of 2D laser machines in 3000x1500 format.

Its main feature is its compactness, with reduced overall dimensions and quick installation. It can be shipped assembled and tested, which brings an additional value to the machine.



The structure consists of an electrowelded steel frame, appropriately designed to be mounted onto the laser cutting machine pallet changer. It has two bays to place both blank metal sheets onto loading and processed parts onto unloading pallets.

The pallet elevator group slides on two vertical "C" guides and is moved by a chain system secured to the head of the structure. The two carts host the combs group, that slides horizontally. The horizontal transfer movement of the combs,

together with the vertical motion of the carts, enables the necessary cycles to perform the handling of the metal sheets from and to the laser machine. The part lifting system with suction cups is designed according to the dimensions and geometrical characteristics of the metal sheet to be handled. It consists of a mobile frame that hosts a template of suction cups that select the single sheet to be loaded. It has a leafing device to avoid selection of two sheets.

During the sheet lifting by the suction cups from the blanks loading pallet, the measuring group controls that there are no double metal sheets or that there is a thickness not suitable for the processing.

The Server Compact system consists of a welded structure, designed to host both loading and unloading bays, respectively. The system can operate automatically by loading blanks and unloading processed sheets until the loading bay is empty, or the unloading bay has reached the maximum allowed stack.

Loading of the single metal sheet is done by a suction cup that separates the sheet from the stack, and places it on the comb shaped elevator. It will bring the sheet out of the bays and down to the pallet change level of the machine, then deposit it on the slats. The elevator will then retrieve the processed sheet from the laser, and deposit it on the processed unloading bay. The system is equipped with all the necessary controls to fully perform the actions automatically.

TECHNICAL DATA

Max manipulable format: 1500 x 3000 mm

Other manipulable standard formats:

x 1000/2000 x 1000/2500 x 1250 mm

manipulable Metal thickness: 0.5 – 20 mm

Maximum weight of load on a pallet: 3,000 Kg

Max. height of metal sheet pack on loading pallet: 150 mm

Max. height of metal sheet pack on unloading pallet: 200 mm

Number of pallets in stock: 2 (load + unload)

Overall dimensions: see layout

Load axis "Z" stroke: 1,200 mm

Axis "Z" speed: 11.0 m/min

Horizontal comb stroke: 1,600 mm

Comb speed: 10.0 m/min

Suction cups vertical stroke: 350 mm

Suction cups plate lifting speed: 2.5 m/min

Number of suction cups: 20 (diameter 150 mm)

Overall cycle time: 130 sec.

Hardware and Software: Mitsubishi PLC

Mitsubishi operator panel

Mitsubishi brushless motors

Axes control: Mitsubishi

COMPOSITION

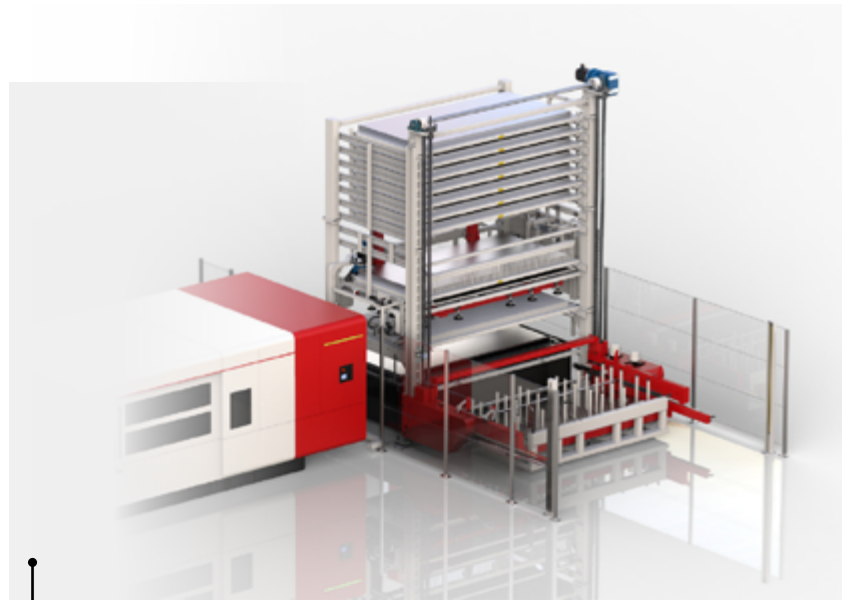
To carry out the loading and unloading operations, a system has been created, and it consists of the following units:

- 1 bearing structure mounted onto the pallet-change system
- 1 suction cup device to lift the blank metal sheets
- 1 comb device to load/unload the metal sheets onto the "pallet-change" table
- 1 Z axis to move the comb device
- 1 command and control unit
- 1 device to measure the metal sheet thickness



TOWER COMPACT

The system implements an automatic processing cell to cut flat metal sheets, integrating an automatic load/unload system to the laser machine with no need for human supervision.



To accomplish this mission: a pallet warehouse where the sheet metal packs are stored, an elevator to move the pallets, a loading unit for the sheets to be processed with suction cup gripping, a comb plier to unload the processed sheets, a ground station to load the blank packs and unload the processed packs.

The pallets are taken from the stock by the elevator group and placed on the automatic loading bays, or on the manual loading/unloading station.

Automatic loading of the sheets occurs on the predisposed bay, where the pallet parks the pack of blank materials. A suction cup plier selects the single sheet, a magnetic and pneumatic leafing system operates to prevent the loading of several sheets simultaneously. A thickness measuring device checks the presence of a single sheet.

The sheet is released, then loaded onto the pallet of the laser machine.

Automatic unloading of the processed sheet is done through the comb pliers that take the processed part from the laser machine and unload it on the pallet located in the unloading bay.

When full, the pallets are moved toward the warehouse or the manual loading/unloading station.

TECHNICAL DATA

Metal sheet:

Max manipulable format: 1,524x3,048 mm

Other manipulable standard formats: standard format

Thickness: 0.5 – 25 mm

Stock Tower:

Capacity: (--) pallets

Pitch between locations: (--) mm

Loading height: to be defined (with or without wooden pallet)

Plant's maximum height: to be defined

Suction cup grippers:

Number of suction cups: 20

Suction cup diameter: 150 mm

Mapping: to be defined

Activation: one for all suction cups

Comb pliers:

Number of teeth: n° 62

Centre distance between teeth: 50 mm

Tooth coating: galvanised

Unload + load cycle time: 150 seconds

The time indicated is ensured by receiving the correct loading information simultaneously with the start signal of the unloading cycle.

Hardware and Software:

Mitsubishi PLC

Mitsubishi operator panel

Mitsubishi brushless motors

Axes control: Mitsubishi

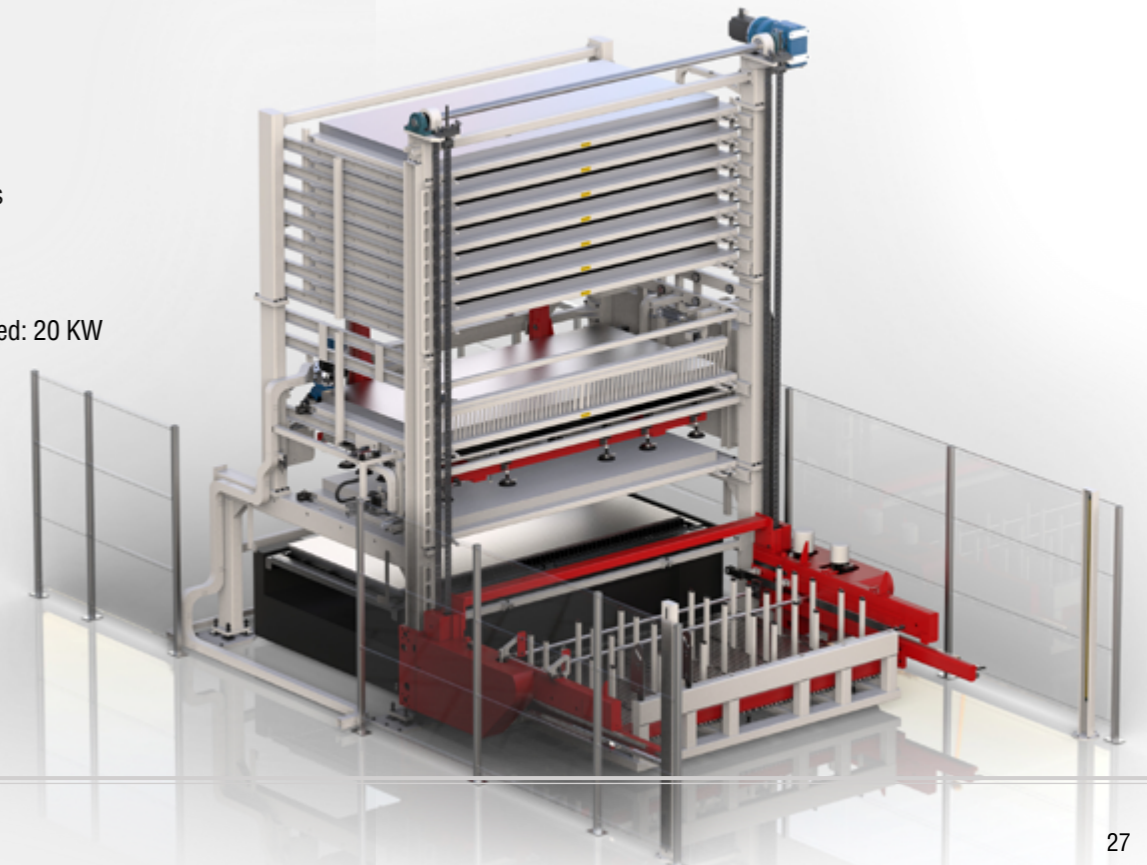
Consumptions:

Electric power supply installed: 20 KW

Current consumed: 30A

COMPOSITION

- Stock Tower (-) pitch locations (-) + 2 work bays
- (-) metal pallets
- 1 standard suction cup gripper
- 1 elevator with unload comb
- 1 system to separate the single sheet from the pack
- 1 measuring unit to detect double sheet being loaded
- 1 electric cabinet with remote operator panel
- 1 set of enclosures



PRESS BRAKE AUTOMATION

AUTOMATIC CUSTOMISED PLANTS

SERVO CONTROL SYSTEMS FOR PRESS BRAKES AND LASER CUTTING MACHINES

Task Dynamic develops and produces customized automated and standard systems for bending cells and laser machines of every form, to meet all the production requirements of the customer. From simple load/unload systems through to complex customized automations, Task Dynamics develops the ideal automation for every production.

NUMERIC CONTROLS, CNC SOFTWARE AND DRIVES

Task Dynamic offers a variety of advanced controls to manage the different functions of the machinery. The range includes both simple controls to determine, store and control the parameters necessary for the execution of the bend, and more sophisticated control panels, with advanced graphic interface and simulation of the bending.



NUMERIC CONTROLS

ATLAS is Task's latest numerical control, which combines over 35 years of software experience. The main features are:

- 2D-3D programming
- upload 3D file step or iges
- automatic tool search
- automatic bending sequence calculation
- industry 4.0 compliant
- connection with in-house software
- connection with ERP system



SOFTWARE

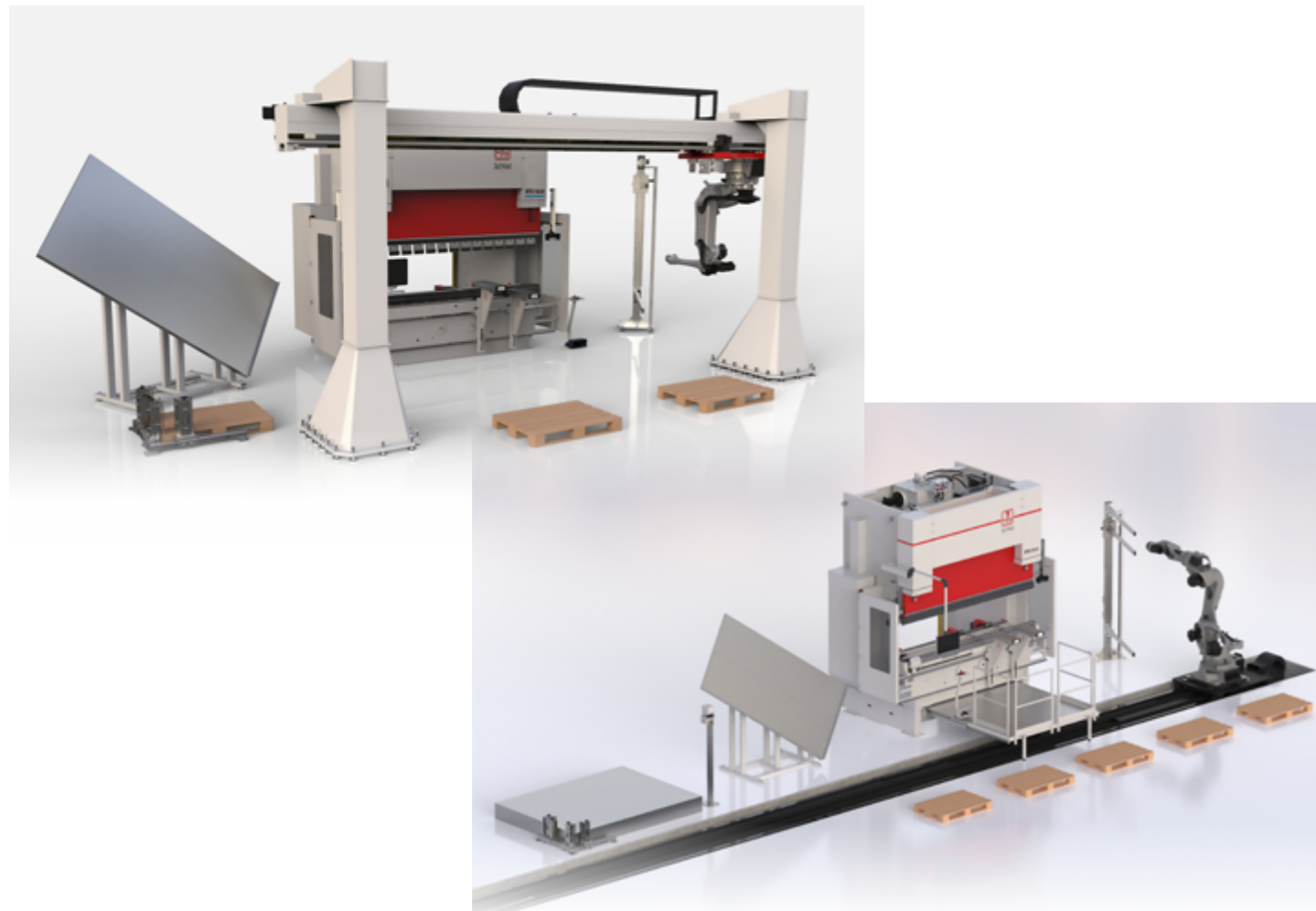
BENDING SYSTEM is the Schiavi Macchine most advanced office software, powerful and user-friendly. It rapidly generates the bending sequence, configuration of the tools, the bending program and the correct development of the part (useful for the cutting process). It can all be sent to production via company server. Bending System, with its A.R.S. application is able to simulate the position of the gripper for the robot.

A.R.S. is the in-house software for the simulation and programming of robotic cells, able to calculate the correct trajectory to allow the robot to complete the component loading, bending and unloading processes.

PLC and DRIVES

CRC3 is the device to manage all the necessary activities to control the bending press devices in real time. CRC3 communicates with the numeric control and enables piloting of all the bending press axes.

EMBLAX is a compact solution that integrates motor and drives in a single product, reducing overall dimensions, costs and simplifying the wiring. Setting the EMBLAX parameters is easy and immediate: diagnostics via PC is ensured by a monitoring program that has a very useful oscilloscope function in real time.



TXP AND TXP2 AUTOMATIC TOOL CHANGER

The Schiavi Macchine automatic tool changer in versions TXP and TXP2 is the 4.0 system that ensures a total automation of tooling time. The TXP system, perfectly integrated with the Schiavi software, allows the operator to receive bending programs from the office, carry out fast and precise tooling in automatic mode. With TXP machine down times caused by the normal machine set-up are drastically reduced. TXP automatically manages the rotation of the punches and uses standard tools.

With TXP2 it is possible to serve two press brakes with a single stock, highly optimizing costs and space.



Magazine available with capacity 32/50/60/70 m



SCHIAVI MACCHINE INTERNATIONAL SRL

Via San Pietro, 16 | 24050 Ghisalba (BG) | ITALY
Via Boschetti, 61 | 24050 Grassobbio (BG) | ITALY

email: sales@schiavimacchine.it
ph: +39 035 4242446

www.schiavimacchine.it

