

ERMAK

SHEET METAL WORKING MACHINERY

Since 1965

CPP SERIES

CNC PUNCH PRES
PLASMA & PUNCH



CPP PUNCH PRESS TECHNOLOGY



TOOLING SYSTEM

Sensitive and durable ERMAK-BIEMMETI marked standard sextet multi tool or thick turret D station is used at bottom and top tool system.

Trio, quartet, fivefold, sextet and octet multi tools, B, C and D type stations, TRUMPF type, Wilson tools can be adapted to the machine and available upon request. Many operations are possible like special coated tools for stainless steel processing, forming with functional tools, perforating various diameters and special evacuating.

The machine has the "Automatic repositioning feature" to process sheets wider than 2000 mm. Two hydraulic sheet holder clamps are pinching the sheet with springs are used on the machine. The sheet is pinched without causing any deformation to provide processing sensitive.

Stainless with roller balls type table

Pneumatic sheet referencing bar and CAD/CAM controlled pneumatic trap to drop the scraps into the box with wheels.

Interpolation of sheet weight – acceleration by CAD/CAM (CNC controlled automatic axis acceleration calculation according to the sheet thickness and dimensions while CAD is being prepared).

Rapid, sensitive, hydraulic punch control system by means of HNC100 High Speed control card and LVDT feedback.

Sensitive linear bearing equipments, guides without gap, sensitive screw axes and dynamic servo motors, intelligent drivers are used on X and Y axes. The dynamic buffer designed with these equipments does not make a concession from its sensitivity even at high speeds.

Cad/Cam: User friend LANTEK Expert cad/cam software used all around world in the sheet metal working industry.



CNC CONTROLLER

Bosch & Rexroth brand VSP 16 type, 12" TFT with high resolution, colored, touch panel) screen is used on the machine. UPS, USB are available for customer use on the panel. The control unit is equipped with 2 Ghz high performance processor, 512 MB Ram, 20 GB Hard Disc, VGA, Ethernet (10/100 Base – T), PS2 Serial Ports, USB, IP65 protection class 0.25g. / 5g. vibration/shock resistance, EMC Test certificated Windows XP operating system has common and easy service. Ergonomically designed control panel can be moved around the machine easily. Protective UPS (Power Source) is included for electricity cut off and voltage undulation.



LANTEK SOFTWARE

Lantek Expert Punch, Offers the most productive solution for proramming cutting machines

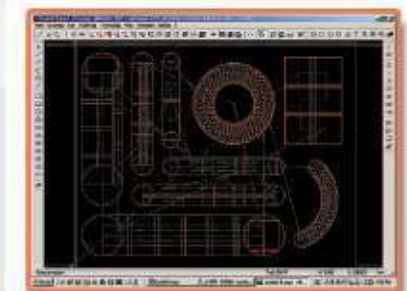
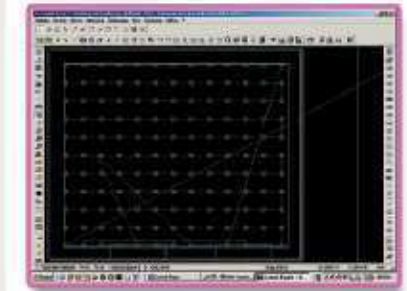
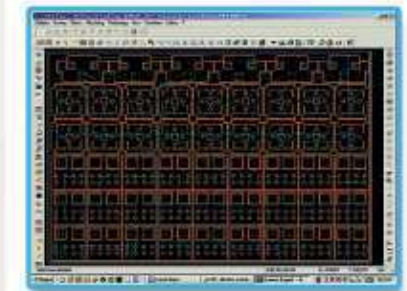
This new design is the fourth generation of programs and is the result of Lantek's more than 10 years experience in providing solutions for the sheet metal processing industry.

Easy to learn.

Lantek Expert Punch is designed to reduce learning time to a minimum. Simple, user-friendly menus guide users at all times, enabling them to produce parts from the first day.

Summary:

2D CAD Module Automatic dimensioning Parametric Shapes Library Import DXF, DWG Files Possibility to save the drawing of the nesting in a file with WMF format or with DXF format Automatic geometry verification and error correction Manual, automatic & interactive Nesting (collision control) True-shape Nesting Nesting for common punching Interactive technology assignment (manual & automatic) Standard reports (Factory sheets report, Sheets report, Geometry report, Parts report, Labels report, Time and Cost reports, etc) Automatic part quantity tracking Automatic calculation of part area, weight, machining time and cost. User-definable cost parameters Automatic processes Communications Flexible automatic sequencing options Common Punching Automatic tooling Automatic work-chute management Automatic micro-joint management Automatic damp avoidance control Automatic repositions User definable punching macros Shear Management Integrated parts database Integrated Tools and Dies database Integrated material Database Automatic plate cropping and remnant creation Automatic nesting on remnant sheets

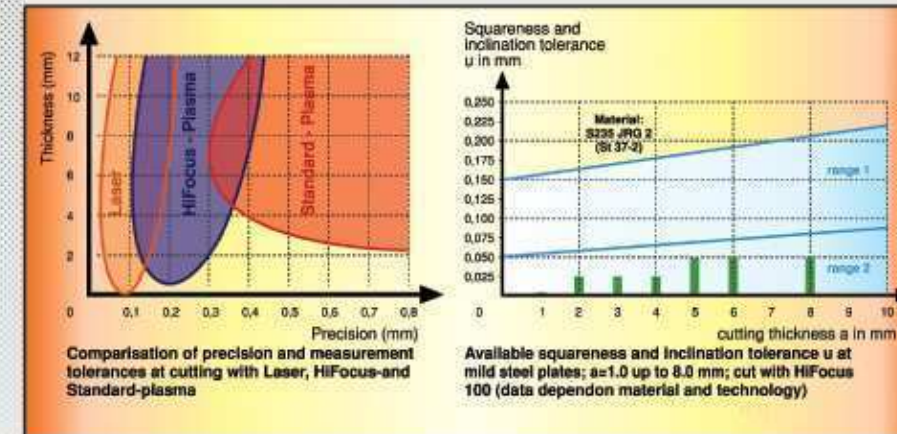


CPP COMBINED PLASMA PUNCH PRESS

ERMAKSAN's CPP (COMBINED PLASMA PUNCH PRESS) series proven quality and experience in production of sheet metal workbenches is being presented to the utility of our clients open to technology and continuous innovation. Strong mono block rigid C type body built up by welded steel and stress removed high acceleration axes designed to allow sheet loading from 3 sides ergonomically lets the operation to be watched easily.

The combination of HiFocus sensitive plasma cutting and hydraulic punching on a strong body. The moving sheet on X, Y axes on a stainless with roller balls type table by clamps can be cut as sensitive as required contour by servo motorized automatic height adjusted torch at plasma unit after being processed by perforating and/or forming operations at punch unit. It realizes cutting and perforating processes at high speed and accuracy, and has the capability aimed at mass production. An alternative cutting process in comparison to other high cost cuttings. Furthermore the production period will be shortened on these kind combined workbenches because the worksheet will not be taken apart and transferred to different workbenches.

HiFocus



Cutting Accuracy Graphic (LASER - Hi Focus PLASMA - Standard Plasma)
Cutting quality at DIN 9013 Range 1 between 1 to 8 mm by HiFocus.



CPP 1270 x 30 TON

KJELLBERG HI-FOCUS 100

KJELLBERG HI-FOCUS 100
(Aluminum, Stainless Steel, Mild Steel)

HiFocus Technology

PLUS The HiFocus – technology is based on a computer – optimized development of plasma torch components and control sequences. The result is a laser-like cutting quality with extremely low squareness tolerances acc. to DIN EN ISO 9013 (optimum $-1^\circ / +2^\circ$) ($\pm 0,2$ mm part tolerance) for a very wide thickness range up to 25 (40) mm. An up to 100% higher cutting speed compared with conventional systems in connection with the increased longevity of the XL-Life-Time consumables are the result of considerably minimized cutting costs for mild steels. The outstanding features of the new PLUS HiFocus-technology are highest quality capabilities at a substantially improved productivity and cost reduction in an extended range of application.

With the plasma cutting unit HiFocus 100 for optimized cutting ranges are disposable, ensuring superb cutting results at destined dimension limits for mild steels, stainless steels and aluminum.

Those are characterized by:

Metallically clean, laser-like cutting surfaces, also with thicker materials and stainless steels, narrow cutting kerfs with lowest squareness tolerances, very small heat effected zones, therefore nearly no distortions, also at thin plates, dross-free cutting in a wide range of thickness, running cutting start and running piercing, direct corner cutting and cutting of inside contours, and ensure a wide technological field of application as well as excellent economical parameters.

High Accuracy Cutting Results

Insulated swirl protects the gas and cutting nozzles, by this way provides better quality cutting and lowest operating cost at piercing period at warm materials. Directly water cooled nozzle 3 time life time extended cathode Constant cutting quality by automatic height and arc voltage control, Dross-free cutting, sensitive contours, sharp edges, low heat effect are features.

Technical Data

Power source		Plasma machine torch	
HiFocus 100		PerCut 160/170	
Main connection	3x400 V, % -10 / % +5.50 Hz	Cutting current	max. 160 A
Main power	32 kVA	Max. panel diameter	1 m. or 1.5 m
Cross section, Ca	4 x 6 mm ²	Clamping diameter	44 / 50 mm
Fuse	150 A	Cooling flow rate	Coolant circulation 2.5 l/min
Cutting current	20-130A (% 100 d.c.: 100A)	Plasma gases	Oxygen, Air, Argon, Nitrogen, Hydrogen
Open circuit voltage	300 V	Swirl gases	Oxygen, Nitrogen, F ₂
Ignition	High voltage		
Protection class	IP 22		
Insulation class	F		
Dimensions (LxWxH)	960 x 560 x 1260 mm		
Weight	251 kg		

Thickness Material	Material			
	10 mm	20 mm	30 mm	40 mm
Maximum values, material depending.	Piercing with hole sequence			
	Recommended range for fabrication			
	Maximum cutting range			

Cutting parameters for quality cuttings

Material thickness (mm)	Mild steel			Stainless Steel			Aluminium		
	Technology Range	Cutting Current (A)	Cutting Speed (mm/min)	Technology Range	Cutting Current (A)	Cutting Speed (mm/min)	Technology Range	Cutting Current (A)	Cutting Speed (mm/min)
0.5		20	700						
1	HiFocus	20	6500	HiFocus	(30)	(4500)	HiFocus	30	1800
2		50	2600		45	3200		30	1400
3		50	2200		48	3400		35	1200
4		50	2200		50	2000		45	1500
5		50	1750		50	1800		50	1400
6	HiFocus ^{MAX}	100	2700	HiFocus F	(30)	(2000)	HiFocus F	130	3200
8		100	2400		130	1600		130	2200
10		130	2400		130	1250		130	1600
12		130	2000		130	1000		130	1400
15		130	1800		130	950		130	1000
20		130	1000		130	650		130	800
25		130	700		(130)	(400)		130	600
(30)		(130)	(500)						
(40)		(130)	(250)						



CUTTING TECHNOLOGIES

- 1- Hi-Focus Quality:** Mild steel and aluminum (0,5-12 mm), 5/6 bar plasma and swirl gases, direct edge cutting with narrow gap small diameter nozzle, cutting at DIN EN ISO 9013 quality, long cathode and nozzle life-time, min. gas consumption
- 2- Hi-Focus INOX:** Stainless steel 1-6 mm, dross-free clean cutting, 5/6 bar plasma and swirl gases, direct edge cutting with narrow gap small diameter nozzle, cutting at DIN EN ISO 9013 quality, long cathode and nozzle life-time, min. gas consumption
- 3- Hi-Focus Speed:** Mild steel 4-12 mm, 8 bar plasma and swirl gas, high speed cutting (approx. 3 times), sometimes small cutting inclination angle.



ERMAK CPP TORCH STRUCTURE



Advanced Software for ERMAK CPP

LANTEK EXPERT II Combinations Plus Module :

The operations of drawn at the main software or imported from any CAD software part are designated by LANTEK as automatically according to the previously determined criteria as punching or plasma cutting. Automatic nesting (best nesting to the sheet without shrinkage) provides cost advantage.

Software Features

- Lantek Expert II Combination Plus Module Including:
- 2D CAD Module
- Automatic dimensioning
- Parametric Shapes Library
- Import DXF, DWG Files
- MEC Import Module
- Possibility to save the drawing of the nesting in a file with WMF format or with DXF format
- Automatic geometry verification and error correction
- Manual, automatic interactive Nesting (collision control)
- True-shape Nesting, including parts in parts
- Nesting for common line
- Interactive technology assignment (manual & automatic)
- Advanced lead-in and lead-out options
- Automatic lead-in and lead-out generation and placement
- Automatic lead-in and lead-out overlapping detection and correction
- Automatic pre-punch in lead-in/lead-outs
- Flexible automatic sequencing options
- Common Line cutting
- Bridge cutting and pierce reduction
- Advanced pre-piercing options (fast piercing, sprintlaser)
- Chain cutting
- Feature avoidance
- Head-up/Head-down control
- Variable quality
- Automatic tooling
- Automatic work-chute management
- Automatic micro-joint management
- Automatic clamp avoidance control
- Automatic repositions
- User definable punching macros
- Integrated parts database
- Integrated Tool and Die database
- Integrated material Database
- Automatic plate cropping and remnant creation
- Automatic nesting on remnant sheets
- Standard reports (Factory sheets report, Sheets report, Geometry report.
- Parts report, Labels report, Time and Cost reports, etc)
- Automatic part quantity tracking
- Automatic calculation of part area, weight, machining time and cost.
- User-definable cost parameters
- Automatic processes
- Communications



Automatic Clearance control IHT PCS 2100

When traveling downwards the vertical LINEAR DRIVE finds the surface of the work piece by smooth tactile touching, irrespective of surface conditions, such as rust or dirt, stops and moves to the preselected ignition height position. After ignition, it moves to the preset cutting height. The arc voltage is monitored during the cutting process. Clearance control is maintained by comparison of nominal arc voltage to the real arc voltage.

Adjustments of all clearances may be preselected in millimeters or inches.

- *Finds the initial position exactly by smooth tactile touching the surface of the work piece.
- *Adjustable additional elevation for piercing increases the durability of the nozzle.
- *Precise clearance control at tool center point.
- *Cost saving work piece utilization with measuring the distance close to kerf and edges.
- *Automatically detection of kerf and edges.
- *High precision torch lifter, stroke 220 mm
- *High speed for control up to 80 mm/s
- *Adjustable retract position at the end of cut
- *3D collision protection, effective in all directions
- *Torch lifter dust-proof and maintenance-free
- *Integrated monitoring of operation
- *High positioning accuracy by 0,1 mm incremental encoder
- *Metric and Inch working modes
- *Light dynamic structure 9 Kg
- *Reliable strong DC motor



STANDARD EQUIPMENTS

- **X, Y, C, HiFocus Plasma Generator + Automatic Servo Motorized Height Control (Z)**
- Bosch Rexroth VSP 16 CNC controller Industrial PC
- 12" TFT Colored High Resolution Touch Screen
- Windows XP operating system
- USB entrance at panel
- Protective USB (Power Supply) for electricity cut off and voltage undulation
- ETHERNET Interface for Communication and Network Connection between the office and machine
- The operator panel activates easily the velocity of axes, clamp functions, reference positions, trap and tool and punch functions.
- 2 Nos. ERMAK sheet holder clamps
- Mobil Command Foot Pedal
- Automatic Repositioning (for sheets wider than 2000 mm and for zones under clamps)
- Check of work zone by CAD/CAM
- Warning Lamp
- Brushed Type Table
- Cooler
- Automatic CNC controlled trap (Scrap / Part discrimination)
- Wheeled Scrap Box
- ERMAK-BIEMMETI Sextet Multi TOOL "D Station" (Punch, Die, Stripper) A station round 8, 10, 20 mm, rectangular 4x20 mm (2 nos.), square 17x17 mm
- Or
- ERMAK Biemmeti Thick Turret adaptor from D station to A station round 8, 10, 20 mm, rectangular 4x18 mm (2 nos.), square 14x14 mm
- CAD/CAM Software LANTEK EXPERT COMBINATION **
- Standard FULL Automatic Nesting (1 nos. software,1 nos. dongle), postprocessor
- Machine Instruction and Maintenance Manual ERMAK Lantek CAD/CAM training CD for easy usage
- KJELBERG: Hi-Focus 100 PLASMA GENERATOR TORCH UNIT with rustproof option
- IHT PCS1200 Automatic CNC Controlled Motorized Height Control Unit

OPTIONAL EQUIPMENTS

- **ERMAK-Biemmeti octet Multi Tool D Station**
Round 5 mm, 6 mm, 8 mm, 12.7 mm
Rectangular 10x5 mm
Rectangular 3x14 mm
Triangle 14,835 mm, 30 degree
Square 10 mm
- **Wilson Tool Octet Thick Turret D Station**
Round 4 mm, 7 mm, 10,5 mm
Oval 12x5 mm
Rectangular 12x2,5 mm
Rectangular 10x5 mm
Square 8 mm
Triangle 14,835 mm 30 degree
- Adaptor for B, C stations
- 3xB MULTI TOOL station, 1xC SINGLE TOOL station, 10 stationed Multi Tool
- Tools for different punching shapes and forming applications
- Adaptor for Trumpf System
- Additional Clamps
- Coated tools for stainless steel punching
- Mechanic safety for security
- Infrared Cat.4 Light Guard Body Protection confirms CE
- Second user dongle for LANTEK CAD/CAM
- Plasma Application with Rotative Head Punch Press Absolute Servo Synchronous Zero Gap T1, T2 axes
- Special sheet holder clamps for different capacities and thicknesses (after than 6 mm)



CPP 1270x30 TECHNICAL FEATURES

MAXIMUM TONNAGE	ton	30
MAXIMUM CAPACITY (Thickness X,Y)	mm	6,35x1270x2000
MAXIMUM PUNCH DIAMETER (MULTI TOOL)	mm	22
MAXIMUM PUNCH DIAMETER (Sheet is 1 mm thickness) (SINGLE TOOL)	mm	Ø 89,9
MACHINE AXES	-	X, Y, C, Z
X AXIS TRAVEL	mm	2000 + Repos,
X AXIS VELOCITY	m/min	70
Y AXIS TRAVEL	mm	1270
Y AXIS VELOCITY	m/min	70
T1, T2 AXES VELOCITY	rpm	-
STATION REVOLUTION VELOCITY (C AXIS)	rpm	100
X + Y DEPENDENT VELOCITY	m/min	99
MAXIMUM PUNCH STROKE For Nibbling 5 mm Stroke	stroke/min	900
MAXIMUM PUNCH STROKE Per minute For * 1mm step X Movement, 1 mm step Y axes Movement, 1mm Sheet thickness	stroke/min	600
MAXIMUM PUNCH STROKE Per minute For * 25 mm step X movement, 25 mm step Y axes Movement, 1mm sheet thickness	stroke/min	350
POSITION ACCURACY	mm	0,03
POSITION TOLERANCE	mm	0,1
MULTI TOOL CHANGE TIME	sec	12 - 15
SHEET WEIGHT FOR MAXIMUM VELOCITY	kg	25
MOTOR	kW	11
OIL CAPACITY	lt	300
MAXIMUM STROKE	mm	40
SHEET CLAMPING	pieces	2
SHEET CLAMPING FORCE	kg	1200
OPERATOR PANEL	-	Bosch Rexroth MSP 16 12" TFT COLOR (High Resolutions) TOUCH PANEL SCREEN, Windows XP, UPS, USB on the panel
CONTROLLER	-	2 GHz CPU, 512 MB RAM, 20 GB HARD DISK Windows XP Professional, VGA, Ethernet (10/100 Base-T), S2, Serial Ports, USB, IP65, 0.25g/5g Vibrations /Shock resistance, user friendly and service friendly system worldwide service and support, EMC tested, Windows XP Professional
POSITION CONTROL	-	LVTD, REXROTH HINC 100
SERVO AXES	X,Y,C (T1,T2) - RPP	Rexroth Indradrive Ecodrive Sercos Interface
WORKING HEIGHT	mm	1100
TABLE DIMENSION	mm	2450x4000
TABLE TYPE	-	stainless with balls
MACHINE LENGHT	mm	4250
MACHINE WIDHT	mm	4000
MACHINE HEIGHT	mm	2330
SHIPMENT DIMENSIONS	mm	2325x4250
WEIGHT	kg	11000
CAD/CAM Software LANTEK EXPERT PUNCH (1 nos. software, 1 nos. dongle)	license	one license, Postprocessor Automatic Nesting
TOOLING ALTERNATIVES	ERMAK BIEMMETI MULTI TOOL 5 nos. (D station)	PUNCH, DIE, STRIPPER Complete (A Station) Round 8, 10, 20 mm, Rectangle 4x20 mm (2 pieces), Square 17x17 mm (1 pieces)
	ERMAK BIEMMETI THICK TURRET 6 nos. D station	(A Station) Round 8, 10, 20 mm, Rectangle 4x18 mm (2 nos.), Square 14x14 mm (1 nos.)
HEIGHT CONTROL UNIT (Z AXIS)	-	IHT Automatic PCS 2100 Linear Drive Kjelberg HiFocus-100 400 V Stainless Steel Cutting Available 25 mm Cutting Capacity N ₂ /Ar/H ₂ /O ₂ with Plasmaorch Connection Unit
PLASMA GENERATOR	-	Oxygen Argon/Hydrogen/hydrogen
PLASMA GAS	-	Oxygen Oxygen/Nitrogen Nitrogen Nitrogen/Hydrogen
SWIRL GAS	-	
TORCH	-	Plasma-machine torch PerCut 160-2 with swirl gas



ERMAKSAN MACHINERY