www.koike-europe.com

CNC cutting machines

KOIKE

Your cutting needs – achieved.

The world of KOIKE

CNC cutting machines

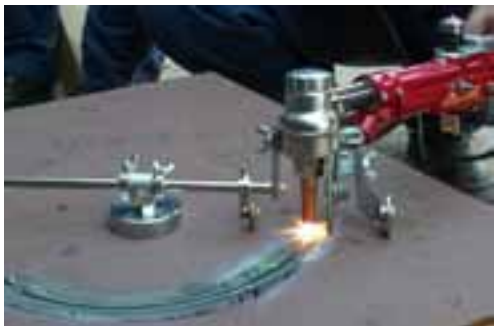
Your cutting needs - achieved

KOIKE – The spirit of cutting

In 1918, KOIKE was established in Tokyo, Japan. Since then, we played a major role in the development and manufacturing of high quality metal cutting machine tools of various types, gas apparatus, welding equipment and positioners.
KOIKE can rely on more than 95 years of experience in the industry and we serve many leading industrial customers which include, steel service centers, shipyards, heavy equipment manufacturers, steel construction, power plants, offshore and other metal industries.

Leading manufacturer of cutting machines

KOIKE is the world's leading manufacturer of the most extensive cutting product line for oxy-fuel, plasma, and laser cutting machines. KOIKE combines Japanese technology and implemented knowledge with experience from our local markets and customers' needs to provide our superior technology in hand-held torches and portable cutting machines up to complex CNC controlled cutting machines.



KOIKE worldwide

From the early 70's, KOIKE has grown as a total supply chain organization that supports business of customers worldwide. KOIKE has established major overseas subsidiaries in Europe, Middle East, North America, China, South Korea and India from where we provide our products and services to over 80 countries with the support of 18 group companies and a worldwide dealer network.

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KATANA - Work smart and efficient

KATANA is the KOIKE global control for cutting machines and is equipped with a touch panel for superb multi-tasking efficiency while featuring an intuitive user interface.

KATANA features clearly structured menus and self-explanatory symbols, graphics and photos, that will guide the operator step-by-step through the system to quickly get perfect cutting results with the least of set-up time.

KATANA is an Industrial PC, optimized for your cutting needs. Advanced high speed and real time communication will ensure smooth handling of all machine axis motion and maximum performance in process control. Operation is perfectly adapted to the need of operators to reduce down-time and to prevent operating errors. Integrated cutting data bases and process wizards also provide inexperienced operators the opportunity to produce parts within a few steps.

The KATANA Touch Screens are made for users who require excellent performance along with the latest technology available. The hardware is designed to work in rough industrial environments. The software is modular and flexible structured for easy implementation of new functions.

Key Features

Editing: To load, view and edit part programs, modify process data and generate cutting programs. A shapes library that holds 64 predefined, editable standard shapes can be used for cutting single parts or for repetitions with program offset.

Referencing: After power up, the machine will start the automatic reference procedure for each axis that needs to be referenced. During operation, the software constantly monitors the position of all machine axis, especially the synchronized movement and correct offset distance between the master and slave axis of the gantry to ensure squareness of the machine.

KATANA

State of the art control

Manual movement: To move the machine manually for positioning or cutting. KATANA has a Rapid-key available for movement in jogging speed, a Joy-stick for movement of the machine in 8 directions and a Speed-dial to fine tune the cutting speed.

Positioning: The machine can be programmed with pre-defined working areas, program zero- and home points. Via dialog screens, destination positions can be entered and stored for future purpose.

Automatic mode: For loading a single cutting program or a job list with following options:

- Selection of material type, cutting amperage and material thickness. Cutting parameters will automatically be loaded from the process data base.
- Selection of the plate alignment procedure and definition of the plate position via 2 or 3 coordinate inputs through dialog screen.
- Parameter adjustment with the possibility for rotation, mirroring or scaling of parts.

Service mode: KATANA is a CNC with networkable capabilities for remote control and diagnostics. The operator can enter the service mode for editing machine constants or for access to service sub-modes for maintaining the machine and CNC configuration.

Technical specifications	
Operating system	Windows 7 Embedded
Processor	Intel I5 Dual Core, 2.7 GHz
Flash memory	CFast Flash card, 8 GB
Internal memory	4 GB, DDR3 RAM
Display	15” TFT touch panel
USB port	2
Communication	Ethernet / EtherCAT
Ambient temperature	0° - 55° C

Up to 15 mm thickness

Monotec is a flexible and compact machine, suitable for conventional plasma systems for cutting sheet metal up to 15 mm.

The machine construction expresses quality and stiffness due to its V-shaped body structure and integrated exhaust table using linear guiding and integrated precision racks with AC servo's and gears.

The downdraft table is equipped with pneumatic valves for optimized sectional fume extraction. The table deck uses support bars that can be positioned in longitudinal or transverse direction.
Monotec uses the KATANA-S touch panel with software embedded switches for speed adjustment, plate alignment and tool station operation.

Technical specifications

Machine dimensions (W x L)	2.332 x 4.544 mm
Table height	800 mm
Cutting area (W x L)	1.500 x 3.000 mm
Traverse speed	24 m/min
Plasma capacity	up to 105 A
Max. cutting thickness	15 mm
Quality and safety standards	DIN EN ISO 9013, DIN EN 28206, DIN EN ISO 12100

MONOTEC

Compact plasma cutting machine

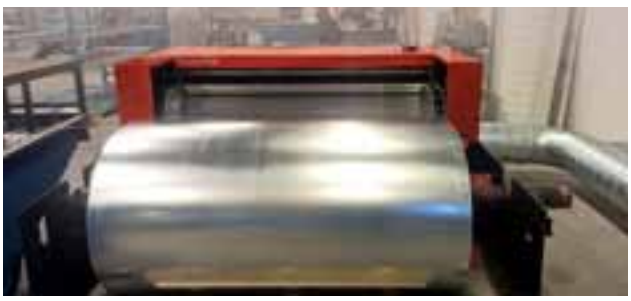
Technical specifications	KATANA-S
Operating system	Windows 7 Embedded
Processor	Intel Quad Core, 1.9 GHz
Flash memory	CFast Flash card, 8 GB
Internal memory	4 GB, DDR3 RAM
Display	15” TFT touch panel
USB port	1
Communication	Ethernet / EtherCAT
Ambient temperature	0° - 55° C

Up to 5 mm thickness

Ventec is a complete cutting solution for production of ductwork, that is applied in the heating and ventilation industry (HVAC).

Ventec is the product of in-depth know-how of mechanical and electrical design, improved interaction of components and processes and consideration of customers' needs.
The machine can be supplied in various sizes and is available with conventional plasma systems for cutting (coiled) sheet metal up to 5 mm.

Ventec runs on linear guiding with integrated heavy duty racks, brushless AC servo's and backlash free gears. The downdraft table is equipped with CNC operated pneumatic valves for optimized sectional fume extraction. The table can be supplied with supports bars in transverse or longitudinal direction.
To complete your HVAC solution, KOIKE can offer optional de-coilers and fabrication software.



VENTEC

HVAC plasma cutting

Technical specifications	
Machine dimensions (W x L)	2.240 x 4.100 / 7.100 mm
	2.740 x 5.300 / 7.100 mm
Table height	800 mm
Cutting area (W x L)	1.500 x 3.000 / 6.000 mm
	2.000 x 4.000 / 6.000 mm
Traverse speed	24 m/min
Plasma capacity	up to 85 A
Max. cutting thickness	5 mm
Quality and safety standards	DIN EN ISO 9013, DIN EN 28206, DIN EN ISO 12100

GAMMATEC

The high precision plasma solution

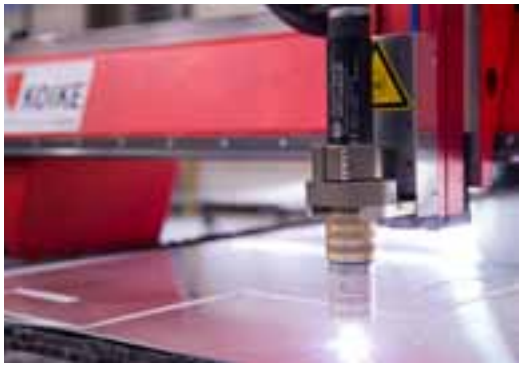
Up to 25 mm thickness

Gammatec is the high-end compact plasma cutting solution for customers that require an all-in-one solution for automated cutting processes.

Gammatec is a table integrated cutting machine which runs on linear guiding with integrated racks, highly dynamic brushless AC servos and backlash free planetary gears. To ensure smooth guiding of the portal, the drive-mounts are fitted with lateral positioned linear guiding to compensate distortion in guidance from heat impact or dust. This portal frame compensation is constantly monitored by the KATANA software and ensures highly accurate movement.

The machine has an integrated sectional downdraft cutting table with removable dust collection bins and CNC operated pneumatic valves.

Gammatec can be equipped with high precision plasma systems that supports the latest contouring technologies as True Hole® and Contour Cut®.



Technical specifications	
Machine dimensions (W x L)	2.240 x 4.100 / 7.100 mm
	2.740 x 5.300 / 7.100 mm
Table height	820 mm
Cutting area (W x L)	1.500 x 3.000 / 6.000 mm
	2.000 x 4.000 / 6.000 mm
Traverse speed	24 m/min
Plasma capacity	up to 260 A
Max. cutting thickness	25 mm
Quality and safety standards	DIN EN ISO 9013, DIN EN 28206, DIN EN ISO 12100

DELTATEC

Plasma & Oxy-fuel cutting machine

Up to 150 mm thickness

Deltatec is a highly accurate gantry machine developed for precision thermal cutting in heavy duty production environments. The machine is built with the use of the latest process control technology combined with excellent mechanics resulting in a rigid, dynamic machine.

The gantry bridge is equipped with double linear guiding and heavy duty rack and pinion, brushless AC servo and backlash free gears, suitable for maximum 4 tool stations.
The portal runs on a railway profile track and is double sided driven with integrated differential compensation for precise guidance. The AC servo axis provide excellent dynamic properties at high contouring precision with positioning speeds per axis up to 24 m/min.

Deltatec can be supplied for working widths up to 4.100 mm to meet customers' requirements. Cutting tools allow quality cuts with plasma up to 100 mm and with oxy-fuel up to 150 mm.

The highly accurate KOIKE SmartLift is a tool station that ensures superior cutting performance. The SmartLift features reliable tactile initial height setting as well as precise tracking control of the torch to workpiece distance by measuring the arc voltage.

Technical specifications

Rail span	2.500 – 5.000 mm
Working length	up to 48.000 mm
Machine length	2.370 mm
Rail	49 kg/m
Traverse speed	24 m/min
Max number of tool stations	4
Plasma capacity	up to 440 A
Oxy-fuel capacity	up to 150 mm
Quality standards	DIN EN ISO 9013, DIN EN 28206, DIN EN ISO 12100

Up to 300 mm thickness

Deltatex is a robust gantry machine developed to meet the highest demands on precision, ease of operation and performance. Deltatex is engineered to work in the toughest production environments and suitable for multi-shift operation.

The gantry bridge is a reinforced double beam construction with double linear guiding and heavy duty rack and pinion, strong brushless AC servo and backlash free gear, suitable for maximum 12 tool stations.

The portal runs on a railway profile track and is double sided driven with integrated differential compensation for precise guidance. The rigid machine construction with AC servo axis provide excellent dynamic properties at high contouring precision with positioning speeds up to 34 m/min.

Deltatex can be supplied for working widths up to 6 m to meet customer's requirements. Cutting tools allow quality cuts with plasma up to 160 mm and with oxy-fuel up to 300 mm.

KOIKE 3D-Link (optional)

The KOIKE 3D-Link bevel unit received the invention award from the Japan Welding & Engineering Society and is to this day still regarded as one of the best available bevel units in the market.

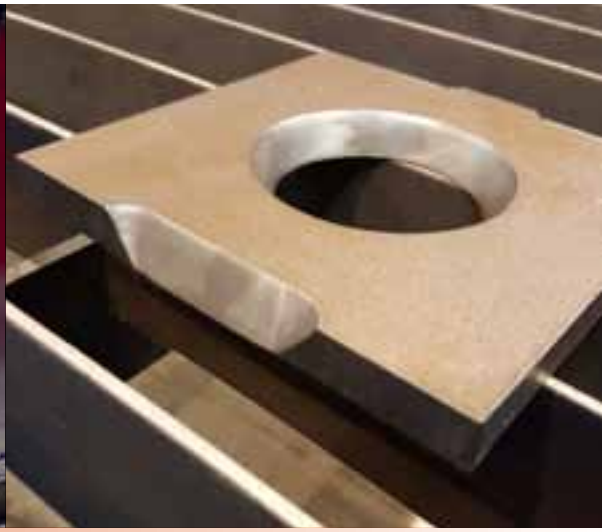
The 3D-Link is used for high precision bevel cutting on sheet metal plates. The advanced height control with collision protection allows for cutting the most complex shapes with or without edge preparations.

The integrated bevel cutting wizard in the KATANA CNC provides all required values for a precise bevel cut depending on the material type, thickness and programmed bevel angles after which the entire system is automatically adjusted with the correct parameters.

The 3D-Link performs precise and efficient cuts in one run to eliminate manual rework. Accurate height control through arc voltage measurement, fast torch positioning speeds up to 20 m/min and infinite torch rotation with an angle setting speed of 100°/sec; The KOIKE 3D-Link bevel unit has set a new standard in 3D cutting technology.

DELTATEX

(3D) Plasma & Oxy-fuel cutting machine



Technical specifications

Rail span	3.500 – 7.500 mm
Working length	up to 48.000 mm
Machine length	3.210 mm
Rail	49 kg/m
Traverse speed	24 m/min
Max number of tool stations	12
Plasma capacity	up to 600 A
Oxy-fuel capacity	up to 300 mm
Bevel adjustment	+45°/-40°
Bevel positioning	100°/sec
Positioning speed Z-axis	20 m/min
Quality standards	DIN EN ISO 9013, DIN EN 28206, DIN EN ISO 12100

Bevel tool options

Smartbevel plasma

Mid-range bevel unit

The KOIKE Smartbevel is our new mid-range bevel unit suitable to fit most customers cutting needs when quality bevel cutting is required.

- Compact, light weight design
- A-Axis range +/-50° to allow bevel cutting between +/- 45°
- C-Axis rotation range between -540° and +540°
- C-Axis rotation speed up to 200°/second
- A-axis speed up to 60°/second
- Initial Height sensing with Ohmical Unit or Laser sensor
- Collision protection with magnetic torch bracket

3D Link plasma

High-end bevel unit

The KOIKE 3D-Link is a true infinitive rotational plasma bevel unit designed for complex shapes bevel cutting applications. It is equipped with a magnetic torch bracket for collision protection and initial height sensing and is designed for precision plasma bevel cutting up to 50 mm material thickness.

Technical Specifications

Positioning speed Z-axis	: 20.000 mm/min
Maximum stroke	: 350 mm
Rotation (C-axis)	: infinite rotation
Bevel positioning speed	: 100°/ Sec

MR-180 Oxy-fuel

Plate edge preparation

The Deltatex can be equipped with an X-Bevel Unit model MR-180 for oxy-fuel plate edge preparation. (V, Y, K, X)

The triple torch block can be center rotated manually +/- 180° for bevel cutting in longitudal and transverse direction.
The X-Bevel Unit MR-180 is equipped with SmartFlow gas distribution, height control, automatic ignition and tool collision protection.

Marking tool options

Plasma Marking

Marking, notching and punching

- Character and line marking capability
- Marking depth and width adjustable by arc current
- Control via interface for CNC guiding system

Inkjet unit

Rotational printing

For alphanumeric labeling, marking lines and arcs on cut parts, without damaging the plate surface, KOIKE developed a rotational Inkjet Marking unit for use on all KOIKE CNC plasma cutting machines programmed by the Katana CNC controller.

Function /design

- Printing speed up to 24 m/min
- Rotating unit +/- 180 degrees to enable printing in all possible angles
- Inductive Multi-Sensor Height sensing unit to allow printing also near the edge of the plate

Drill Marking unit

Pre-hole marking

The pneumatically driven center drill will increase the accuracy of your after-cut drilling because it will create a center mark while the plate is on the cutting table.

It eliminates manually operated marking jobs on the plate after cutting. This option only works in combination with software like SigmaNest, KOIKE KAP software or other packages.

Tool options

OP-TI-CAL K300

Oxy-fuel / Plasma Tool Integrated Camera Lifter

OP-TI-CAL K300 is an innovative system for user and process support on tool stations of numerically controlled machines. It integrates the functions:

- Process and workpiece control
- Optical monitoring of tool positioning
- Distance control between tool and workpiece

Cost reduction

The optical measuring system speeds up the calibration process considerably. Avoiding tip touch / stall force during normal conditions offers another advantage compared with conventional systems. There is no contamination of the torch nozzle.

Automatic Torch Spacing

Torch distance control

Basic system for NC-controlled programmable slave carriage positioning. Manual or automated pneumatic clamping via NC-program to the steel band. The system reduces set up time and increases carriage positioning accuracy.

Automatic Plate Alignment

Easy plate positioning

Automatic plate alignment through plate edge detection by means of 2 optical laser sensors to determine position of the plate and to rotate the parts program accordingly.

Drill device KPD-25

Hole cutting by Power Drill

For integrated drilling operations, KOIKE developed the Power Drill unit KPD-25.

- 4 Tool holder magazine
- Tool length measurement
- Automatic holding down device
- Pneumatic thickness measuring device
- Minimum quantity lubrication, reducing tool wear
- Pneumatic table clamping system

Grid cutting

HotWire application

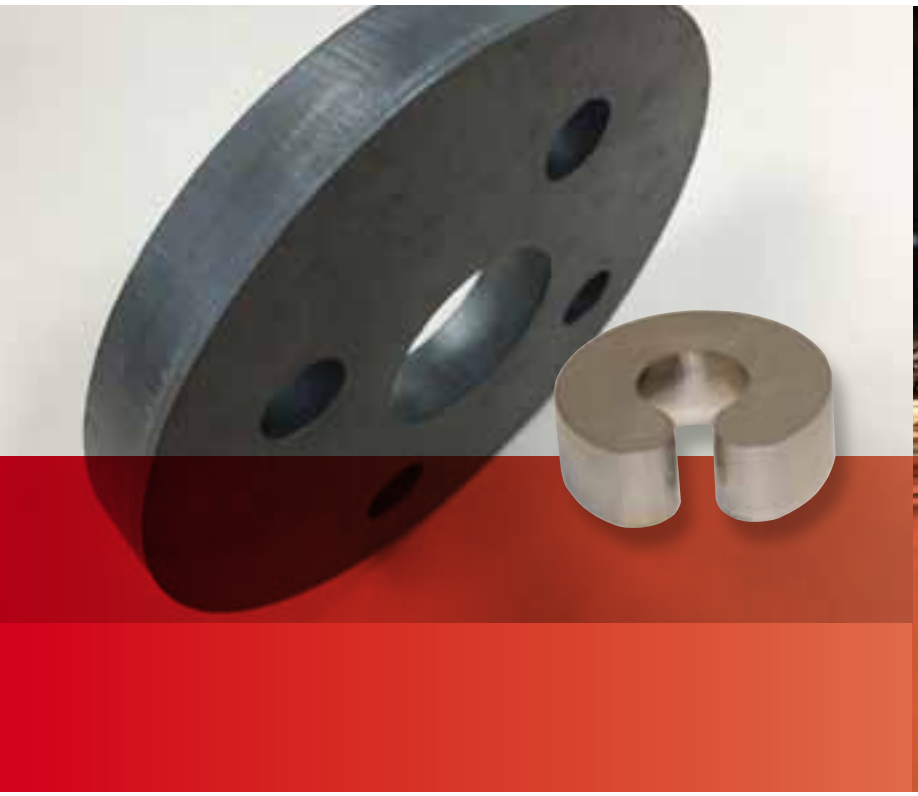
The indirect plasma cutting process is the basis for cutting interrupted structures. In contrast to direct plasma cutting, the plasma arc burns between the cathode and the nozzle of the plasma torch.

The HotWire technology uses a wire that is constantly fed into the cutting process. A HotWire plasma system includes the power source HiFocus 360i.

	Monotec/Ventec/Gammatec	Deltatec	Deltatex
Smartbevel plasma		o	o
3D Link plasma			o
MR-180 Oxy-fuel			o
Plasma Marking	o	o	o
Inkjet unit		o	o
Drill Marking unit		o	o
OP-TI-CAL K300		o	o
Automatic Torch Spacing			o
Automatic Plate Alignment		o	o
Drill device KPD-25			o
Grid cutting		o	o

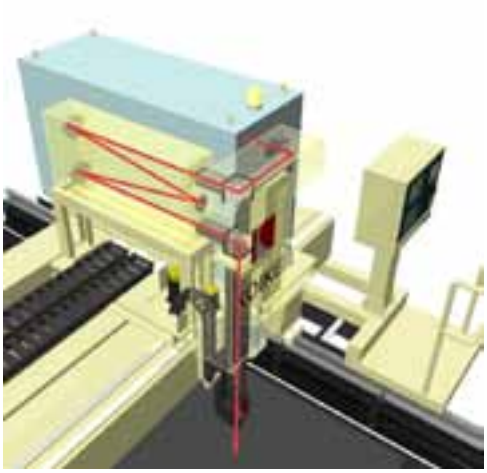
LASERTEX

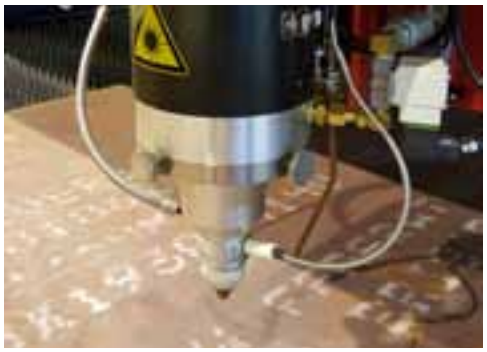
CO_2 laser cutting



The KOIKE Lasertex is designed with a unique laser-beam guiding system, the so-called Sigma box which is integrated directly with the CO_2 resonator and is mounted to the main beam cross carriage. When the cross carriage moves across the plate, so does the resonator. This eliminates the use of bellows that contain the moving optics required for maintaining the beam length in machines with stationary resonators. With the use of the Sigma box, the power source and mirrors move all at the same time so the beam length never changes. This on-board principle allows for capabilities up to 6 m cutting width and up to 60 m cutting length.

The Lasertex's optics are sealed within the air-purged Sigma box, keeping the optics as clean as possible during machine operation, contributing to improved maintenance and reducing down time.
During operation, the Sigma box keeps operators from having to change the focus lens when cutting different plate thicknesses. With one set of consumables and one focus lens, the Lasertex can cut a whole range of the same material from 3 up to 25 mm enabling unmanned, 24 hours operation. KOIKE Lasertex is supplied with a Fanuc resonator, CNC and drive system.





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Technical specifications	LASERTEX – 4 KW	LASERTEX – 6 KW
Resonator	Fanuc C4000i	Fanuc C6000i
Rated output	4000 W	6000 W
Cutting capacity mild steel	up to 20 mm	up to 25 mm
Cutting capacity stainless steel	up to 12 mm	up to 20 mm
Laser type	CO_2	
CNC	Fanuc 31i-LB	
Rail span	4.500 – 7.000 mm	
Working length	up to 60.000 mm	
Machine length	2.800 mm	
Rail	37 kg/m	
Traverse speed	24 m/min	
Positioning speed Z-axis	15 m/min	
Quality standards	DIN EN ISO 9013, DIN EN 28206, DIN EN ISO 12100	

PNC-12 Extreme

Innovation on plasma and oxy-fuel cutting

Up to 50 mm thickness

The PNC-12 Extreme is a brand new innovative cutting solution developed according to KOIKE's highest standards. It is the perfect machine to enter the world of CNC operated cutting.

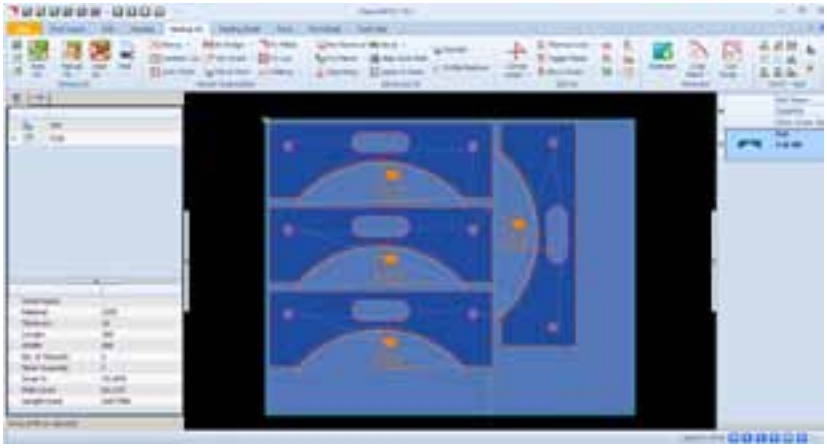
Based on demands from the market for a simple, economical, and versatile CNC cutting machine, KOIKE designed a machine that is portable, operated by CNC and suitable for both plasma and oxy-fuel cutting.

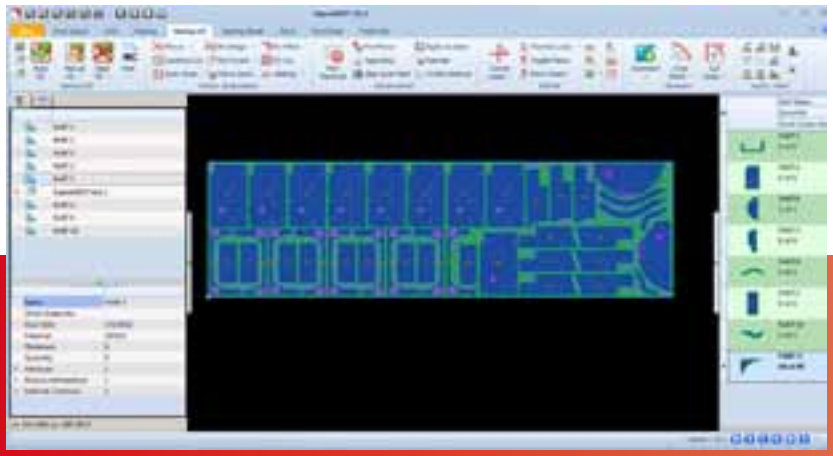
PNC-12 Extreme can be supplied as a plasma or oxy-fuel cutting machine. Optionally, the PNC-12 Extreme can be complemented with an oxy-fuel or plasma package. The oxy-fuel package contains an oxy-fuel torch set with integrated, automated pierce sequence programs and gas on/off solenoid valves on all gas lines. The plasma package comes with initial torch height sensor, arc voltage height control, magnetic torch break-away system and a 35 mm diameter torch holder.

PNC12-Extreme can be equipped with conventional plasma systems up to 105 A. The machine is standard supplied with KOIKE auto nesting CAD/CAM software.

Technical specifications

Type	1015	1530
Machine dimensions (W x L)	1.900 x 2.050 mm	2.400 x 3.540 mm
Working area	1.000 x 1.500 mm	1.500 x 3.000 mm
CNC model	KOIKE D420	
Traverse speed	4.000 mm/min	
Max. cutting speed	3.000 mm/min	
Plasma capacity	up to 105 A	
Max. cutting thickness oxy-fuel	50 mm	
Supply voltage	200-240 VAC, 50/60 Hz	





Software

SigmaTEK offers a variety of software products and business solutions developed by an expert team of engineers. SigmaTek provides the best software for fabrication machines, robust manufacturing recource planning solutions and complete shop floor automation systems for maximum production efficiency.

SIGMANEST software

SigmaNEST is a modular CAD/CAM, nesting and automation software solution for every size of business, from small job shops to large scale manufacturers.
The software's nesting engines offer unparalleled material utilization and nesting efficiency. The software runs on every type of machine, delivering maximum versatility and scalability to meet your requirements.
With SigmaMRP the software can serve as a Material Requirement Planning (MRP) system that manages transactions, process scheduling, inventory of goods and raw materials.

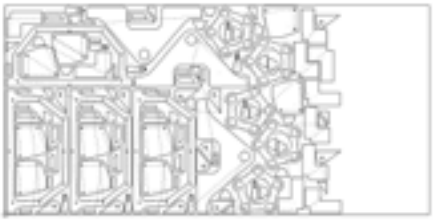
The software functions at the center of the manufacturing operations and maintains its own database of parts, work orders and material inventory to catalog and recall remnants for future jobs. SigmaMRP is the most flexible business management package available today.

KOIKE

Layout Detail

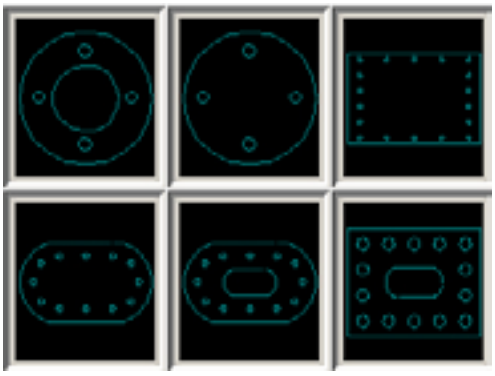
Task Name : T296 **Program Name :**

Number of Sheets with Same Layout	1	**True Scrap**	35.002	**Qty Required**	116	Layout 1 of 1
Stack Quantity	1	**Rect Scrap**	-38.755	**Qty Nested**	116	



Material	MS	**Sheet Length**	3000mm	**Sheet X Used**	2377mm	**Heat Number**	74277	**Mill**	
Thickness	12.0mm	**Sheet Width**	1500mm	**Sheet Y Used**	1490mm	**Sheet Location**	Row 25	**Prime Code**	
Sheet Name	Plate 143	**Cutting Time**	01:37:06	**Cutting Length**	89927mm	**Bin Number**			

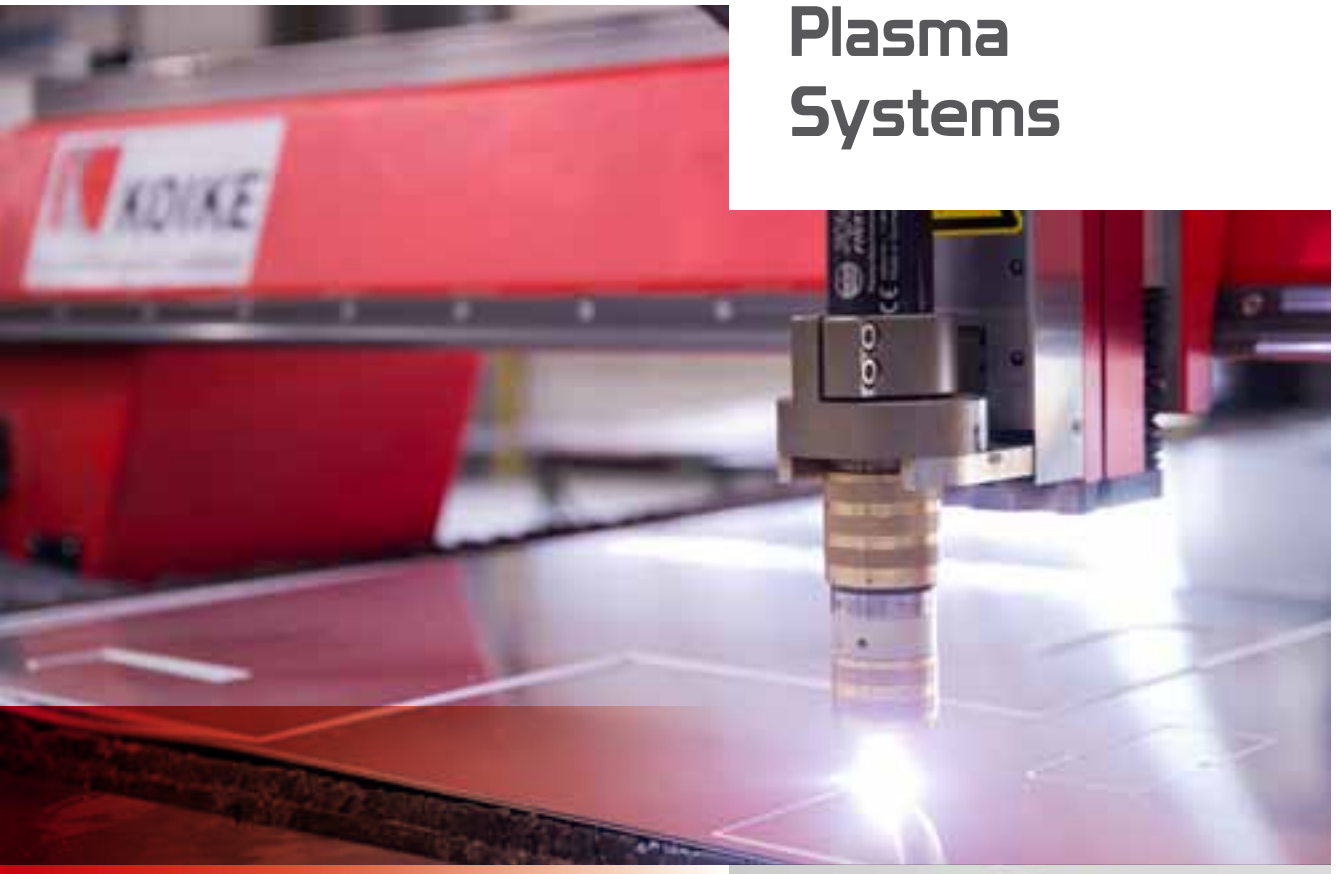
Part ID	Part Name	Qty Req	Qty Nested	Net Weight	Drawing Number	Revision Number	Work Order Number	Customer	Cutting Time
1	PART1	4	4	10.1 kg					00:17:17
2	PART2	3	3	13.0 kg					00:06:38
3	PART3	10	10	2.9 kg					00:08:30
4	PART4	10	10	0.4 kg					00:05:33
5	PART5	20	20	0.4 kg					00:07:51
6	PART6	5	5	4.0 kg					00:12:29
7	PART7	10	10	4.5 kg					00:10:44
8	PART8	20	20	0.2 kg					00:07:06
9	PART9	12	12	0.9 kg					00:07:22
10	PART10	12	12	0.9 kg					00:09:48



^ *extensive shapes library*

< *complete reports of cutting results of each order*

Plasma Systems



Kjellberg FINSTERWALDE

KOIKE offers the complete range of plasma power systems manufactured by Kjellberg from Germany and Hypertherm from the USA.

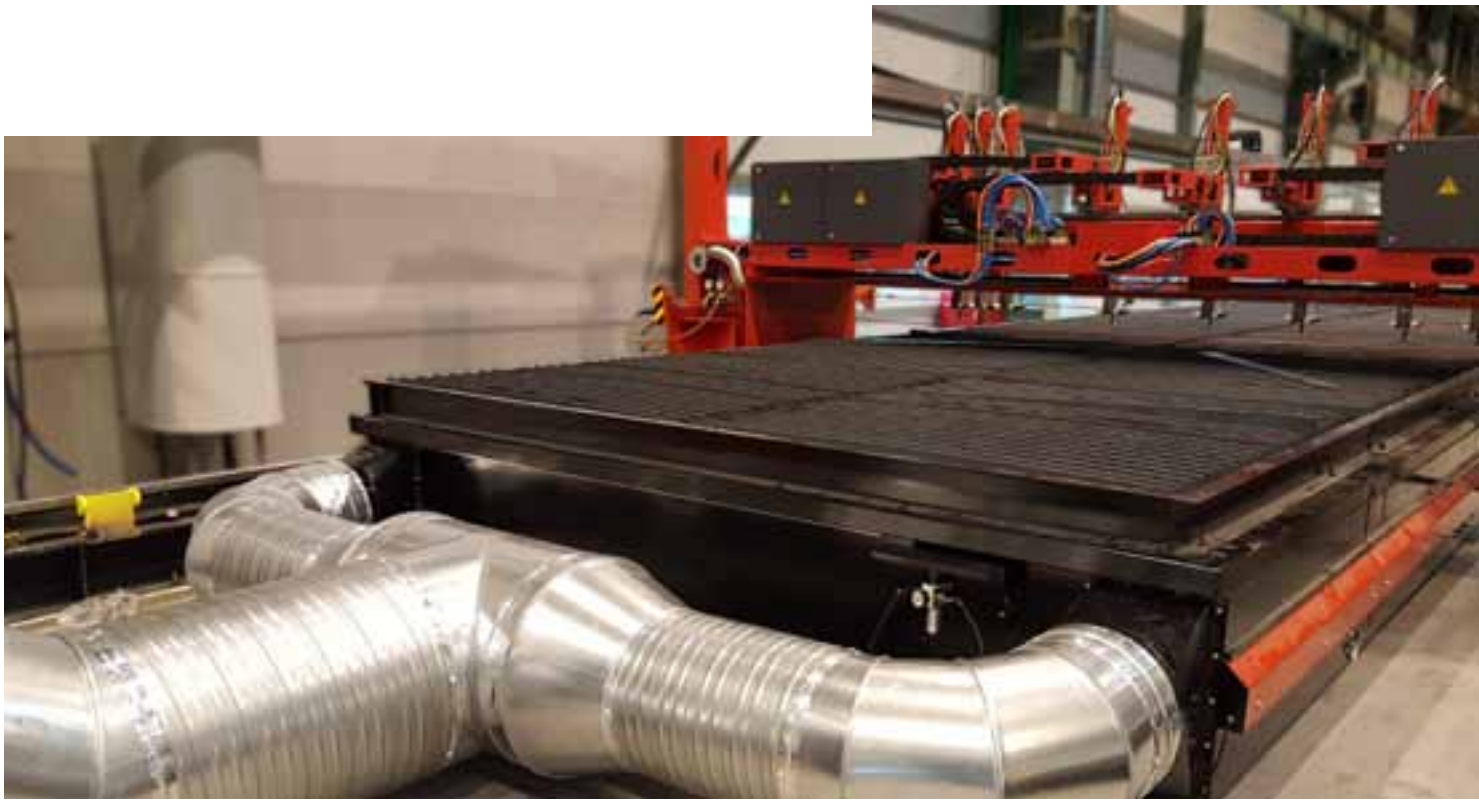
The specific cut charts for each of the supplied plasma systems are integrated into our KATANA CNC for ease of operation and for optimized cut quality. KOIKE cutting machines provide high quality markings with plasma systems that are equipped with automatic gas consoles. KOIKE implements cutting process technologies such as Contour Cut® and True Hole®.

Hypertherm

Tables & Filters

KOIKE can supply turn-key cutting systems completed with different types of fume extraction cutting tables and filters.

For all cutting processes, oxy-fuel, plasma or laser we can optimize your fume extraction system situation and ensure your working environment is following the local health and safety guidelines as well as the environmental guidelines.
Apart from standard table and filter solutions we can supply special filtration and table cleaning systems.



After Sales Support

Service

Customers first! Service and Support to our customers is always KOIKE's prime focus.
We aim for customer production continuity and support by help desk or through field service intervention.
We have service teams available that can be dispatched throughout our sales area and we work with certified partners who can address service issues locally.
For general contact: service@koike-europe.com. Please send us your inquiry for local support.

After sales

KOIKE supplies your consumables and spare parts from stock. We carry large amounts of consumables and spares in our warehouse facilities. Quick dispatch is our goal!

KOIKE cutting school

Skilled operators increase production efficiency of your machines. KOIKE can support your company with training on cutting machines, master the different cutting processes and develop skills with CAD/CAM nesting software. We also have maintenance training modules available for your staff.

Portable cutting systems and gas equipment

KOIKE is the world's most famous supplier of a complete range of hand-held and portable welding and cutting solutions.
Get the latest copy of our catalogue with all models including many application pictures!

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Your cutting needs – achieved.