ErgoCut

The plasma machine with laser-like part quality

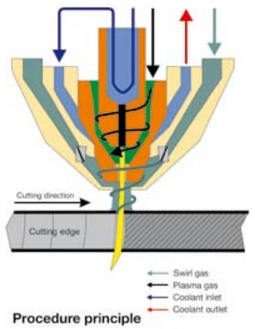
The ErgoCut is manufactured with a stable, rigid portal design and equipped with a sophisticated linear guide system as well as a 5 axis CNC control system. Dynamic drives ensure positioning speeds of up to 30 meters/minute, with a guaranteed positioning accuracy of +/- 0.1mm. The cutting head speed can be adjusted from10 to 8,000 mm/min, and therefore can be optimally adapted to the material to be cut and its thickness. The Kjellberg system HiFocus 160i, which has proven itself time and again in industrial use is used as the plasma source. The Hypertherm HyPerformance plasma system is also available as standard equipment. The Kjellberg- and also the Hypertherm - systems have been successfully utilized in the Boschert CombiCut combination punch machines for many years and are distinguished by an outstanding cost/benefit ratio as well as reproducible cutting quality with regard to contour accuracy and edge surfaces.

- **Compact Design**
  With high-precision bearings
- **Auto Clean**
  The machine is equipped with self-cleaning suction container.
- **Easy Programming**
  Thank to a sophisticated software with touch screen control you get the part ready in a few steps.
- **Smoke Free**
  An ingenious ventilation system in combination with a high performance filtering unit provides for clean air in your workshop.

Productivity, Quality, Flexibility: decisive in the competition

With the introduction of the HiFocus technology in the year 2000, the world of plasma cutting saw a new dimension of productivity, quality and variety of application, all based on the well-accepted FineFocus technology.

The exceptional quality of the cutting surfaces is characterized by dross free cuts, the fine tolerance of the cut angle and straightness of cut, as well as smoothness of the cut edge and a positioning tolerance of +/- 0.2 mm. In addition, repeatability is 0.03 mm and is based on the technology of the HiFocus system, which is known world-wide.



Procedure principle

Moveable support table

The support table is mounted to rollers and it is possible move it to the left and right out of the machine working area by CNC control. This makes loading and unloading of the table very easy as well as making the cleaning procedure very simple. As an optional feature we are able to offer the possibility of an exchangeable second table for even more efficient loading and unloading Price on request.

Soft-Switch Inverter Technology

Technological flexibility, achievable cutting quality and availability of the cutting system depend extensively on the coordination between power source and plasma cutting torch. Furthermore the productivity is influenced significantly by the configuration of the power source.

Primary-switched electronic power sources offer optimal possibilities for realising those demands. For this reason the inverter power source HiFocus 160i was developed, having the favourable working range of 4 to 160 A.

Further advantages are:

- Superior cutting quality due to flexible adaption of the process sequence to the cutting job
- Optimized cutting process by fast control of the cutting current, high dynamic response at small contours and reduced run-in path, corner signal, etc.
- Longetivity of consumables by controlled current rampup and ramp-down during the start and stop sequence and at piercing as well
- Rapid operation start because of extremely fast transition from pilot arc to main arc
- Small components, therefore low weight
- Improved energy balance due to minimized switching losses
- Independent of mains fluctuations
- All cutting parameters controllable by serial interface; serial data transfer to PC for diagnostic purposes

Movable suction and waste container

Automatic movement of the suction container with the position of the cutting head. this was in the previous paragraph – do you want it two time? No sectionalized table required. The machine is equipped with a self-cleaning suction container. Small parts may fall into the suction container during cutting operation. After the program is finished, the container moves automatically to the unloading position where parts are deposited in a predetermined bin.

Machine Control

The machine is equipped with a control designed especially for plasma machines. With this control, it is possible to have the shortest possible production times, even for single work pieces.

Features

- 17 " Touch screen with oversized operators directory and colour graphic
- PC based control with 4 GB Memory + 960 MB Ram
- both axes move simultaneous, with optional priority for either axis
- Absolute measuring system (calibration not required)
- USB port or network for program storage

Import from DXF- and DWG files

- DXF/DWG import features automatic recognition and correction of errors
- Automatic recognition of internal and external contours
- Automatic placement of lead-in flags
- Mark, sign and cut true-type text

Automatic Parquet Nesting

- Fully automated nesting of a single part
- Optimal material usage

Sheet Data Base

- Choose a sheet by material and thickness to automatically lay in the machine settings
- Save offcuts with internal holes or as an offcut grid
- Quantity and quality of your materials at a glance
- Speeds, contour offsets and other data defined by rules, and output to the postprocessor

Automatic True-Shape Nesting

- Fully automated true-shape nesting to any sheet
- Clear display of the number of parts nested on each sheet
- Enter the required number of parts for immediate results
- Expansive options for combining of cutting directions and sorting sequences

Sketcher - Optional Modul

- 2D-CAD starter modul

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Technical Data

Working Range

ErgoCut 3015	1530 x 3030 mm
ErgoCut 4020	2030 x 4030 mm
ErgoCut 6020	2030 x 6030 mm

Performance

Plasma (Kjellberg 160i)	160 A
Marking	5-8 A
Cutting range (dependent upon material)	0,5 mm to 50 mm

Speeds

Max. positioning speed	30 m/min
Working speed	from 200 – 8000 mm/min

Plasma gases

Plasma gas	oxygen, air, argon, nitrogen, hydrogen and mixtures
Marking gas	argon
Swirl gas	oxygen, air, nitrogen and mixtures

Space requirement and weights [1]
(Sizes are only for ErgoCut 3015)

Lengths	4408 mm
Depth	2240 mm
Height	1500 mm
Weight	3000 kg

Electrical values

Main fuse machine	3 x 25 A
Supply performance machine	14 kVA
Main fuse Plasma (Kjellberg 160i)	3 x 50 A "C"
Supply performance (Kjellberg 160i)	33 kVA

Recommended datas for suction

Ventilator	
Suction power	5.000 m3/h
Anschlussspannung	3 x 400 V, 50 Hz
Motor power	5,5 KW
Dust collector	
Volume	40 m²
Working noice	
1 m distance	76 dB(A)
Weight	350 kg
Dimensions	
Height/ depth/ width	2670/ 983/ 983/ mm

[1] Approximate values. The exact values can be found in each specific installation plan.

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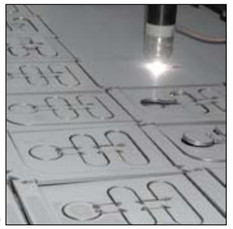
b 

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d 

e 

More elements of the ErgoCut:

a **Automatic gas mixtures (flow control)**

Kjellberg and Hypertherm offers the possibility of the individual adjusting of gases in pressure and flow rate. This function ability allows the best quality of cutting on all metals and alloys. The automatic Plasmagas-control unit is called PGC (Plasma Gas Controller).
The PGC allows the processing of the necessary adjustments from data banks and guarantees a perfect reproduction of the cutting results.

b **Process stability and reliability**

Even under unfavourable conditions a steady cutting process is ensured. Foil-coated or soiled material surfaces, conclusions in the metal, air gaps as well as mild steel with enhanced content of silicon or sulphur do not influence the cutting operation.

c **Quick-change torch**

As one of the latest developments a quick-change torch with bayonet joint is at disposal.

The easy use leads to the reduction of idle times by:

- fast technology conversion for changing cutting jobs
- quick adaption to different material thicknesses
- fast replacement of consumables with prepared torch head

d **Automatic height control:**

CNC controlled z-axis ensures precise height control for better cut quality and accurate initial height for efficient hole piercing. To reach best cutting qualities it automatically adjusts the height of the plasma burner according to a constant distance between burner and work piece when cutting uneven material.

e **Vacuum extraction (option)**

Effective vacuum extraction and the efficient filter system mean that cutting residue is always safely removed.

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ErgoCut

Plasma Cutting
Marking
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