

BOSCHERT



ErgoCut

Plasma Cutting

Marking

Drilling

Tapping



simply better!



Specific characteristic

- **Compact Design**
With high-precision bearings
- **Auto Clean**
The machine is equipped with self-cleaning suction container
- **Smoke Free**
An ingenious ventilation system in combination with a high performance filtering unit guarantees „**Black Forest Air**“.
- **Easy Programming**
Thank to a sophisticated software with touch screen control you get the part ready in afwe steps

The plasma machine with laser-like quality

The ErgoCut is manufactured with a stable, rigid portal design and equipped with a sophisticated linear guide system as well as a 7 axis CNC control system.

Dynamic drives ensure positioning speeds of up to 75 meters/minute, with a guaranteed positioning accuracy of +/- 0.05mm.

The cutting head speed can be adjusted from 10 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.

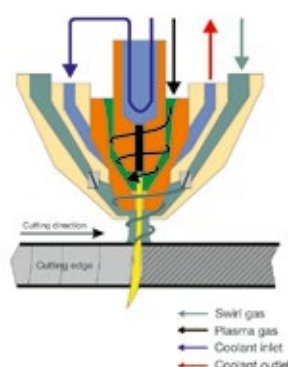
The Hypertherm HyPerformance plasma system is also available as standard equipment.

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.

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 +/- 0.2mm. In addition, repeatability is 0.03 mm and is based on the technology of the HiFocus system, which is known world-wide.

Procedure principle

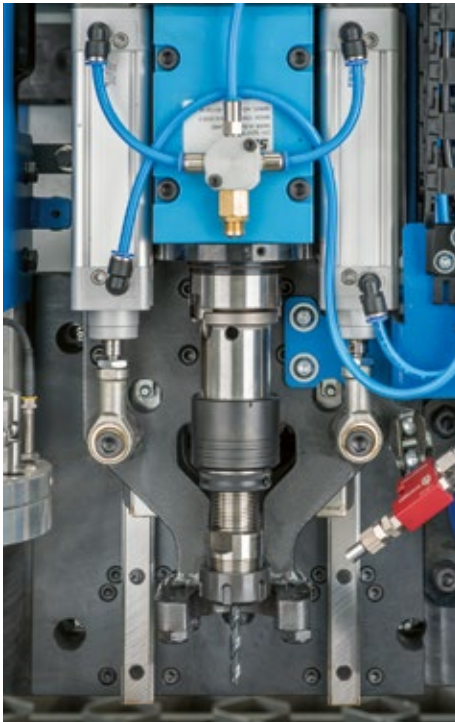


New extended application



New extended application

Drilling and threading unit



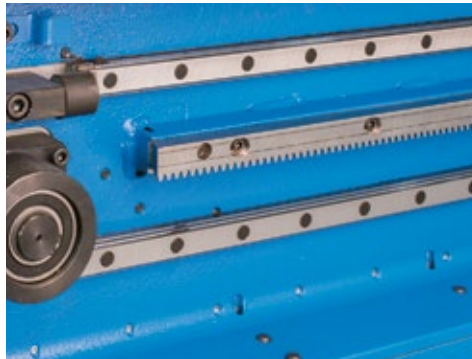
The drilling and threading unit contains a quick-change chuck and allows drilling diameters up to 20mm and thread diameters from M3 to M16.

The unit can be used for sheet thickness up to 30mm.

A pneumatic hold-down fixes the workpiece during threading and prevents it from rotating on the machine table.



Rack and pinion drive



The rack is guided on the X- and Y-axis with a double linear system to ensure optimal smooth running of the axle movement.

The used system is a special helical rack and guarantees great precision and repeatability.

In the X-direction, the axis is driven by two servomotors (master/slave). This allows a very fast positioning.



Electrical cabinet



Open and easily surveyed panel includes digital control, cooling fan, transformers and control.

Industrial CPU



Control with internal memory, USB port and LAN RJ 45 for network connection. Possible remote maintenance by internet

CNC control type Labod S-Box III



7-axis CNC control with 19" touch screen with extended memory. USB port and LAN RJ45 for network connection and remote maintenance via the Internet. Joystick to move the axis and a laser pointer to select the starting point.

Moveable support table

The support table is mounted to rollers and it is possible to 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.



Movable suction and waste container

Automatic movement of the suction container with the position of the cutting head. 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.



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:

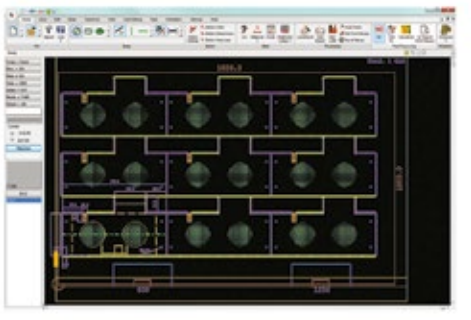
- Superior cutting quality due to flexible adaption of the process sequence to the cutting job
- Optimized cutting process by fast control of the cutting current, high dynamic response at small contours and reduced run-in path, corner signal, etc.
- Longevity of consumables by controlled current rampup 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



BG-Cut

BG-Cut produce depending on automatic or manual selection the processing contours with the required tools. After the machine program for the punching or laser machine has been created, a setup and processing report can be created.

- Direct import from BG-Bend
- 2D Import and drawings
- Machine selection punch or laser
- Automatische sowie manuelle Werkzeug- oder Laser auswahl
- Special tools
- Manual nesting
- Automatic nesting (option Auto Nest)
- 2D simulation
- Online capability
- Setup reports
- Setup reports for the machine operator including bend sequences, tooling and bend-by-bend graphics



BG-Cut Auto Nest (Option):

Offers optimal material utilization with AutoNest - CNC automatic nesting module. AutoNest is a powerful True Shape nesting tool offering versatile methods for automatic and manual nesting to achieve the best possible nesting solutions.



1 BG-Soft enhanced your productivity:

- Faster design-to-production times with automated features
- Offline programming means minimal machine down-time
- Collision-less bend sequences mean reduced stock wastage
- Tool libraries are compatible to available tooling resulting in production-ready Setup reports
- Technology report

Technical Data

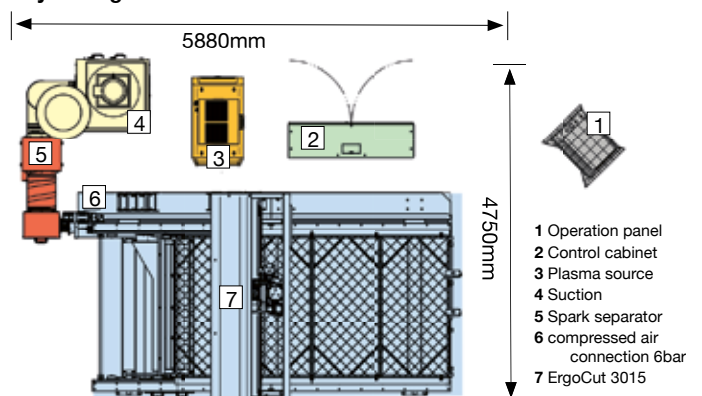
Working area	
Ergo Cut 3015	3000x1500mm
Ergo Cut 4020	4000x2000mm
Ergo Cut 6020	6000x2000mm
Performance	
HiFocus	
Plasma source	161i 280i
Plasma-cutting current	160A 280A
Cutting performance	
Mild Steel	max. 50mm 80mm
	recommended 35mm 50mm
Stainless steel	max. 40mm 50mm
	recommended 30mm 40mm
Aluminium	max. 40mm 50mm
	recommended 30mm 40mm
Space requirement *1/*2	
3015 (LxBxH)	7000x5000x2800mm
4020 (LxBxH)	9000x6000x2800mm
6020 (LxBxH)	11000x6000x2800mm
Weights	
3015	3000 Kg
4020	4000 Kg
6020	4800 Kg
Speed	
Simultaneous (X and Y)	75 m/min
Accuracy	
Positioning difference	+,-0,05 mm
Pepeatability	+,-0,03 mm
Control	
Typ	S-Box III Touch
Display	19" TFT Touchscreen
Datatransfer	RJ45 und USB
Sheet size	600Kg 900Kg*3
Colour	
Blue	RAL 5017
Light grey	RAL7035
Electrical power supply	
Fuse protection incl. machine and suction	3x25A
Electrical connecting value	14kVA
Fuse protection Plasma	T 50A T 125 A
Electrical connecting value	33kVA 76kVA
Cooling	— 16A

*1 The exact values can be found in specific layout plan

*2 Hight of suction en request

*3 Fixed table

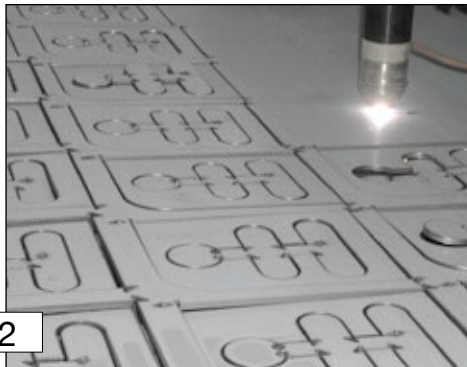
Layout ErgoCut 3015 161i



More elements of the ErgoCut



1



2



3



4



5

1 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.

2 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.

3 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

4 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.

5 Dust collection for Plasma

To ensure a safe work environment, it is necessary to have direct extraction of the waste material in their development area. Therefore it is necessary to ensure optimal and efficient integration of extraction system at our ErgoCut. Completely removing of dust is only possible at a small distance between the cutting point and extraction point. To this end, **BOSCHERT** has ensured optimal and effective integration of the dust extraction system on our ErgoCut.



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