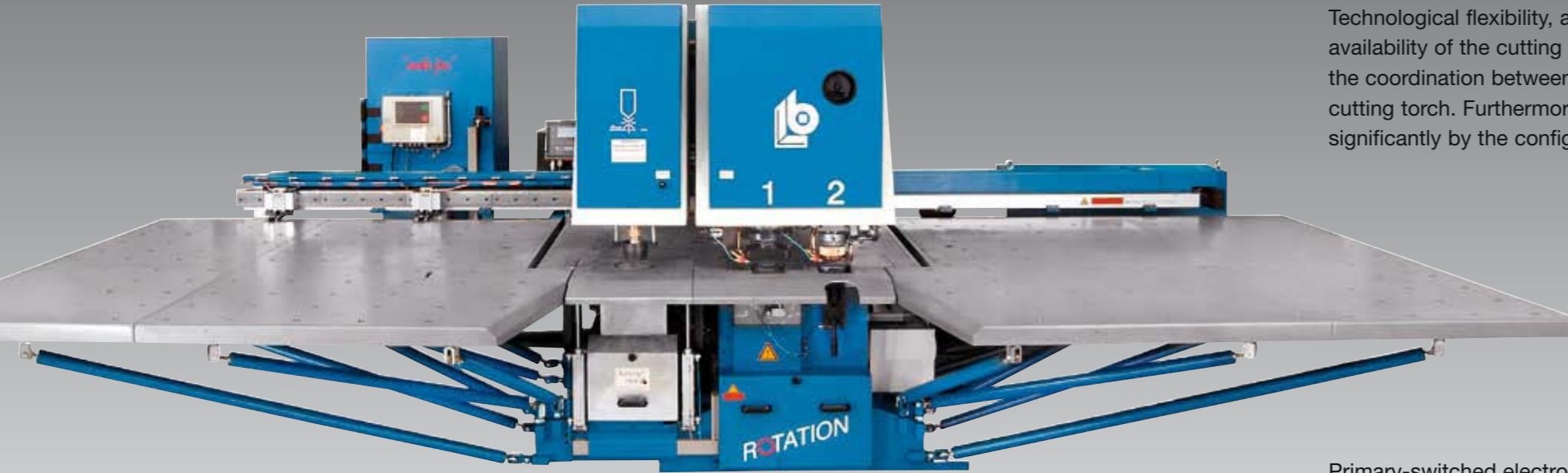


## Plasma Cutting, Punching and Forming

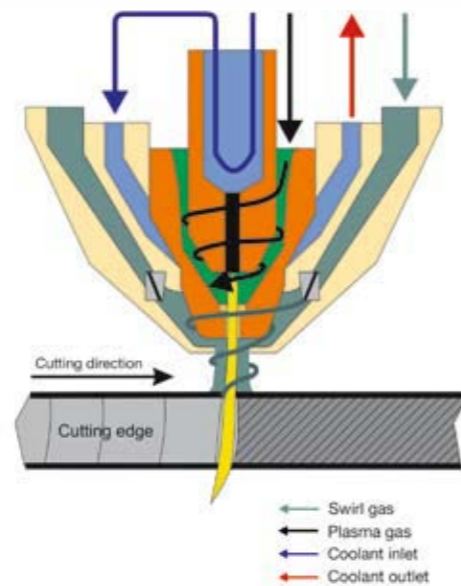


Producing complex inside and outside contours quickly at high quality is possible now also with Plasma. Forming, offsetting, producing tongues, beads and even threads are the special domain of punching. The Boschert Combicut unites the strength of all processes in one machine.

### 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

## 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 ramp-up 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



## More elements of Combicut



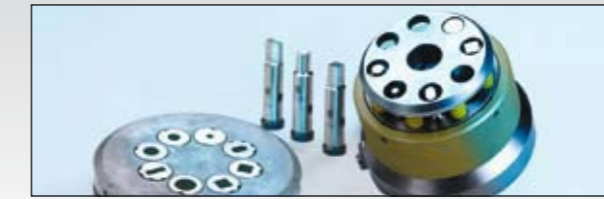
### Forming Tool

Forming of all types (e.g. louvering, knock-outs, extrusions).



### Marking Tool

Permanent part identification with embossing tools and the marking option.



### Revotool

Heavy duty Revotool for max. 6 mm mild steel with 8, 6 or 4 tools max. ø 16, 20 and 25 mm.



### Separate machine frame

The separate frame allows independent and vibration-free operation of the plasma head.

## Combination of Technologies

In a joint effort with the fine plasma technology firm of Kjellberg, Boschert has developed a cost-effective alternative to combination punch/laser machines. Because of the advances in the fine plasma technology in recent years, it is now possible to cut even thin gauge sheet metal with very high quality.

## Intelligent Flexibility

An additional advantage of the Boschert Combicut is that our EccoLine, TWIN and TRI machines can all be equipped with plasma. With this versatility Boschert can meet all customer requirements.



Ecco Line



TWIN



TRI



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## Technical Data

### Working Range

Combicut 750x1500	1580 x 810 mm
Combicut 1000x2000	2080 x 1060 mm
Combicut 1250x2500	2580 x 1310 mm
Combicut 1500x3000	3080 x 1560 mm

### Performance

Plasma power	160 A
Max. sheet thickness	12 mm clamp-opening
Max. sheet length	9999 mm by repositioning
Max. plasma-cutting force	35 mm
Max. punching force	280 kN (Option 400 kN)
Max. workpiece weight	200 kg

### Speeds

Max. positioning speed X- axis	60 m/min
Max. positioning speed Y- axis	60 m/min
Simultaneous X & Y	85 m/min
Max. stroke rate punching	400 1/min
Max. stroke rate marking	800 1/min

### Tools

#### Trumpf Tools

Max. punching diameter	105 mm or any shape within 105 mm
Revotool	4 / 6 / 7 / 8 stations
Tool changing time	1 sec. Revotool, 15 sec. manual

### Punching accuracy

Positioning accuracy	+ 0,10 mm
Repeatability	+ 0,03 mm

### Programmable chutes

For plasma and punching parts	500 x 500 mm max.
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### Space requirement and weights <sup>1</sup>

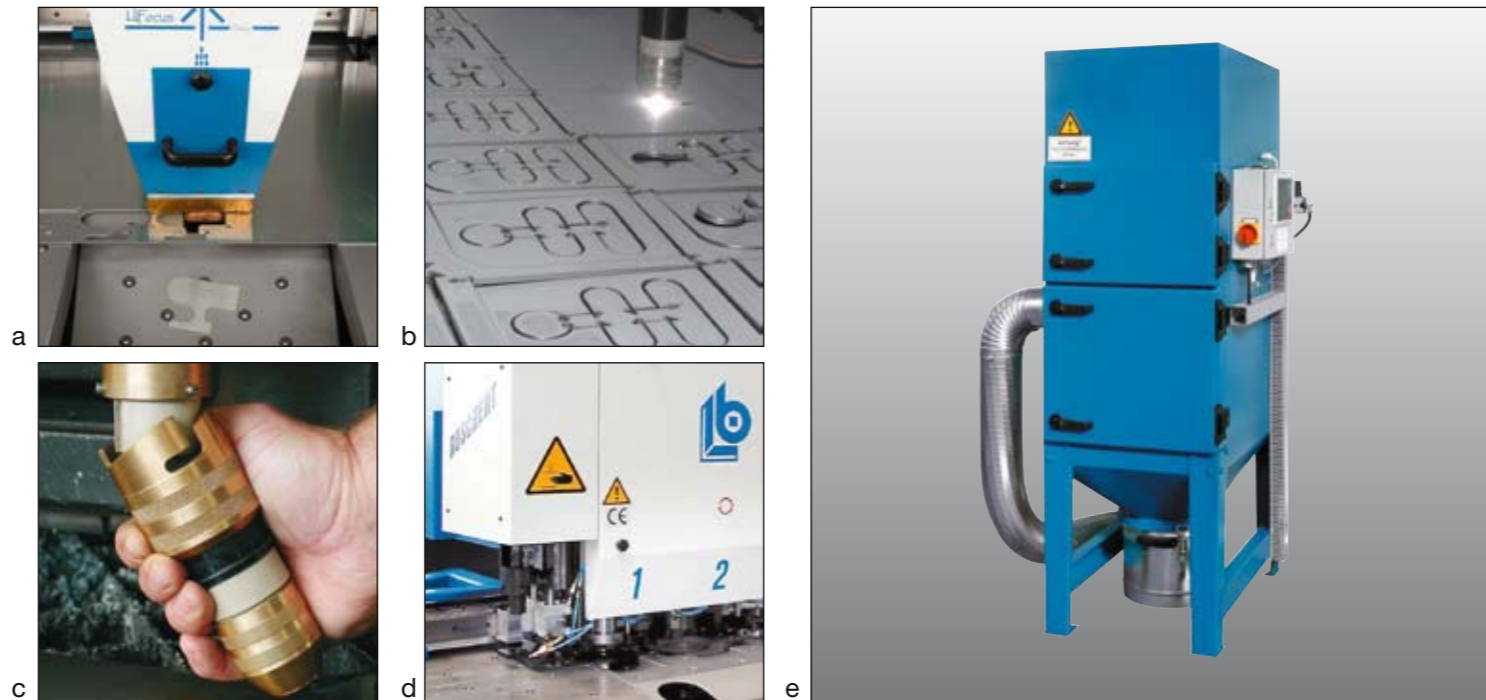
Combicut 750x1500 Weight	6000 x 4800 x 2110 mm 13500 kg
Combicut 1000x2000 Weight	7000 x 5400 x 2110 mm 14500 kg
Combicut 1250x2500 Weight	8000 x 6000 x 2110 mm 16300 kg
Combicut 1500x3000 Weight	9000 x 6500 x 2110 mm 17400 kg

### Electrical values

60 KVA

<sup>1</sup> Approximate values. The exact values can be found in each specific installation plan.

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## More elements of Combicut

### a Automatic removal of small parts

A programmable trapdoor under the plasma head automatically removes finished parts up to 500 mm x 500 mm (20" x 20").

### 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 Tapping

Tapping and drilling available as option.

### e Vacuum extraction

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



**BOSCHERT**  
GmbH+Co.KG

79523 Lörrach, P.O. Box 7042  
Germany  
Phone +49 7621 9593-0  
Fax +49 7621 55184  
www.boschert.de  
infoak@boschert.de



# COMBICUT

Forming

Punching

Plasma Cutting

Marking



*simply better!*

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