Kjellberg®
FINSTERWALDE

the FINE FOCUS™ company

Plasma Cutting System

HiFocus 80i

Small but highly precise plasma cutting system

Plasma cutting from 0.5 mm up to 25 mm

made in Germany

HiFocus 80i - System of Function and Design

The **HiFocus 80i** is a modern microprocessor-controlled power source that is often used in the automotive industry. Based on the well-proven soft switch inverter technology with primary switching and with an operating range from 10 A to 80 A, it can be used for **cutting materials with a thickness between 0.5 mm and 20 mm**, or up to 25 mm in case of separating cuts.

Thanks to the excellent price-performance ratio, the HiFocus 80i makes it possible for many medium-sized enterprises to cut in **HiFocus quality**.

The **HiFocusPLUS technology** has a number of advantages:

- Minimum gas and energy consumption due to high energy density as a result of the increased constriction of the plasma arc
- Excellent cutting quality
- Low perpendicularity and inclination tolerances of the cuts
- High contour accuracy of sharp edges and small radii
- Low heat input and, therefore, low material warping

The HiFocus 80i guarantees high flexibility also for smaller guiding systems and robots for a wide range of conditions of use. The special system configuration **HiFocus 80i-Robo** is available for the use with robots.

- Flexible adjustment of the cutting process to the required conditions
- Optimal process control due to quick and stepless adjustment of the cutting current
- Individual manual adjustment of gases with the plasma gas control unit PGE3-HM
- Analogue or serial interface for adaption of robots to CNC control
- Serial data transfer to PC for diagnostic purposes
- Optimal piercing due to adjustable current upslope
- Adjustable current downslope after corner, start and end signals from the guiding system

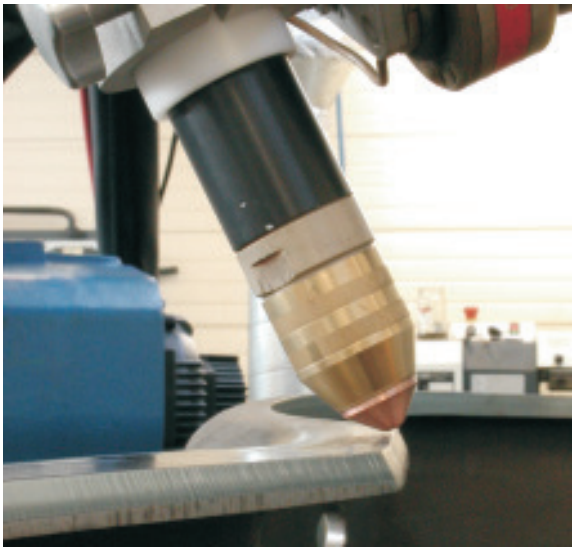
Versatile Torch Technology

The new generation of PerCut torches has been developed especially for the high demands of the HiFocus technology. They guarantee an increased constriction of the plasma arc by using swirl gases and smaller nozzle diameters and by optimising the gas rotation.

There are a number of different plasma torches available for versatile applications. In addition to the standard torch PerCut 80, the quick-change plasma torch PerCut 90 with bayonet coupling can be used to take advantage of reduced downtimes and easy handling:

- Quick change of technologies due to prepared quick-change torch head
- Quick power adjustment for cutting different material thicknesses
- Comfortable change of consumables due to prepared quick-change torch head

For bevel cutting up to 45° or on three-dimensional parts, e.g. with robots, the plasma torch PerCut 160 (also available with 60° or 90° angled torch head, straight version also available as quick-change plasma torch PerCut 170) with reinforced shaft and 3D consumables is used, thus creating the best conditions for robot-based three-dimensional cutting which is a typical application for example in the automotive industry.

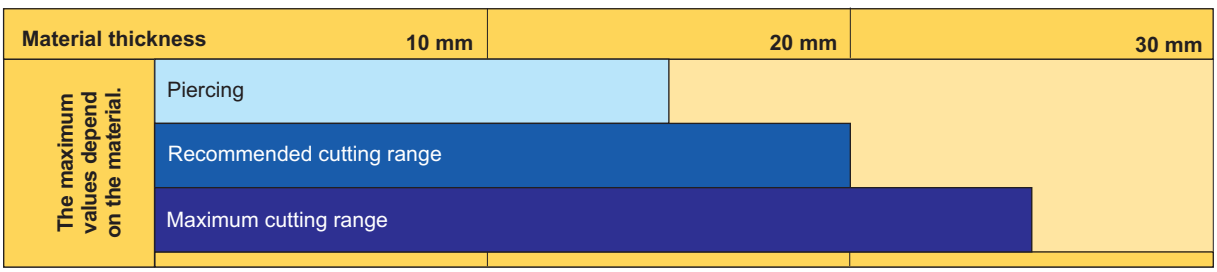


Bevel Cutting on a 3D workpiece with robot

PerCut 90

PerCut 80

Fields of application



Technical data

Power source	HiFocus 80i
Cutting current	10 - 80 A (100 % d. c.)
Mains voltage	3x 400 V, 50 Hz
Fuse, slow	25 A
Connected load	17 kVA
Open circuit voltage	400 V
Ignition	High voltage
Protection class	IP 22
Insulation class	F
Dimensions (H x W x D)	1000 x 510 x 1020 mm
Weight	161 kg

Plasma torch	PerCut 80/ PerCut 90
Standard version	PerCut 80
Quick Change system	PerCut 90
Cutting current at 100% d.c.	max. 100 A
Clamping diameter	
PerCut 80	44 mm
PerCut 90	50 mm
Weight with 1.5 m torch package)	3.8 kg
Cooling	coolant „Kjellfrost“
Plasma gases	O_2, Air, N_2
Swirl gases	O_2, Air, N_2, Forming gas

Cutting parameters (extract) [1)]

Material		Mild steel		Stainless steel		Aluminium	
Max. Cutting speed[1)]		Cutting current (A)	speed (mm/min)	Cutting current (A)	speed (mm/min)	Cutting current (A)	speed (mm/min)
Material thickness (mm)	0,5	20	5000				
	1	20	3500	30	5000	35	3800
	2	50	2600	55	4000	35	2600
	3	50	2200	55	2600	35	2300
	4	50	4500	60	2200	50	1500
	5	50	3500	60	2000	50	1400
	6	80	3200	60	1800	50	1300
	8	80	2600			50	1300
	10	80	2300				
	12	80	1700				
	15	80	1200				
	20	80	600				
	25	80	200				

1) The listed cutting speeds depend on material characteristics, gas parameters, the guiding system as well as the consumables. According to the quality parameters of the respective cutting task, the user can change the cutting speed.

Kjellberg-plasma cutting systems are CE-conform and correspond with the valid guidelines and instructions of the European Union. They are developed and fabricated on the basis of the following standard: EN 60974 (VDE 0544). The plasma cutting systems are labelled with the S-sign and therefore applicable to environments with increased hazard of electric shock.
The fabrication takes place according to DIN EN ISO 9001. The factory-owned quality assurance comprises piece and cutting performance tests, documented by test certificate.

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