Kjellberg CUTTING

PLASMA CUTTING

HIFOCUS

HiFocus
High Precision Plasma Cutting

HiFocus 280i, 360i, 440i, 600i neo
Plasma cutting from 0.018 to 6 inches

kjellbergcutting.com

Plasma Cutting from 0.018 to 6 inches

Advantages

Highest cutting & marking quality
High cutting speed
Wide cutting range
Low costs per cutting foot
Long lifetime of the consumables
Low gas consumption

Efficient & for versatile applications

The plasma cutting systems of the HiFocus neo series meet the highest demands in the cutting range between 0.5 and 160 mm. Due to the constriction of the plasma arc by means of a heavily rotating swirl gas, it is possible to achieve excellent cuts with nearly dross-free* and rectangular cut surfaces.

Users benefit from diverse possible applications as well as low process costs due to high cutting and marking speeds: The plasma cutting units can be used in connection with all common CNC guiding systems, pipe cutting machines or robots, also for bevel cutting or underwater plasma cutting (from HiFocus 280i neo).

*Depending on material and guiding system

Application areas

Metal construction & engineering

Job shop production

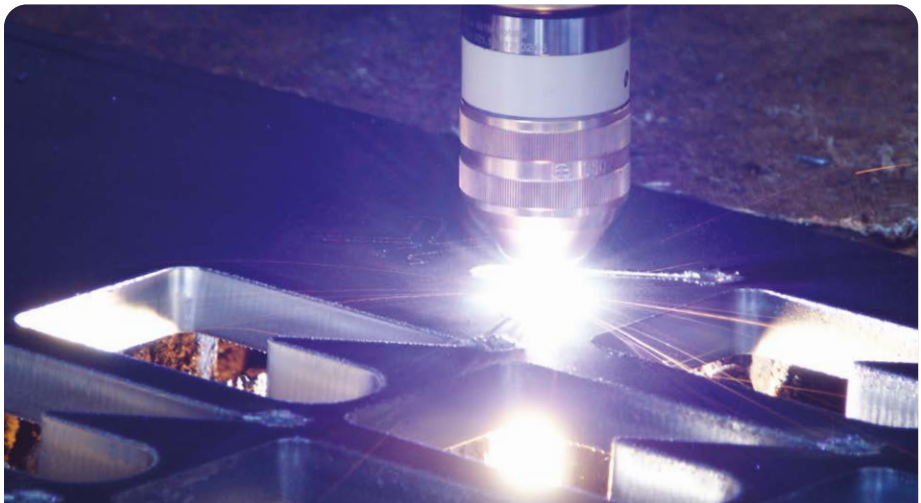
Structural steel fabrication

Plant & tank construction

Commercial vehicle & crane construction

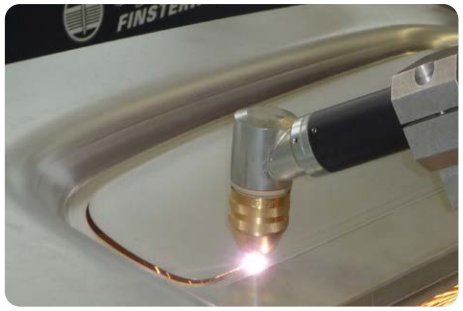
Pipeline & ventilation construction

Shipbuilding & automotive engineering



HiFocus 280i neo

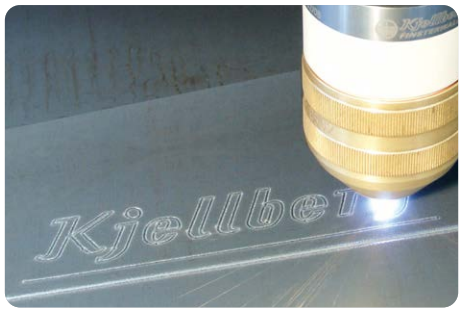
	HiFocus 280i neo
Cutting current	10 - 280 A
Marking current	5 - 50 A
Cutting range	
➥ max.	2 3/4 in
➥ recommended	0.018 - 2 in
➥ piercing	1 5/8 in



2D and 3D cutting

HiFocus 360i neo

	HiFocus 360i neo
Cutting current	10 - 360 A
Marking current	5 - 50 A
Cutting range	
➥ max.	3 in
➥ recommended	0.018 - 2 3/8 in
➥ piercing	2 in



Marking

HiFocus 440i neo

	HiFocus 440i neo
Cutting current	10 - 440 A
Marking current	5 - 50 A
Cutting range	
➥ max.	4 3/4 in
➥ recommended	
stainless steel	0.018 - 3 in
mild steel	0.018 - 2 3/8 in
➥ piercing	2 in

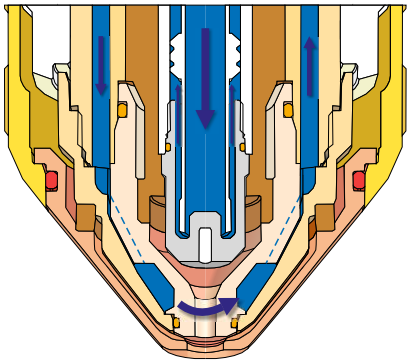
Plasma cutting from 0.018 to 6 1/4 inches

HiFocus 600i neo

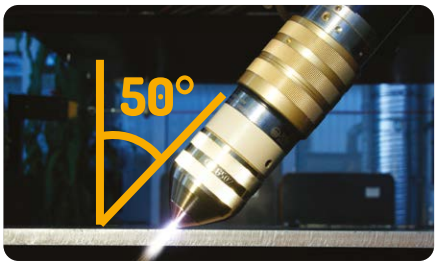
	HiFocus 600i neo
Cutting current	10 - 600 A
Marking current	5 - 50 A
Cutting range	
➥ max.	6 1/4 in
➥ recommended	0.018 - 4 3/4 in
➥ piercing	3 in

4 3/4 inches stainless steel

Intelligent Torch Technology



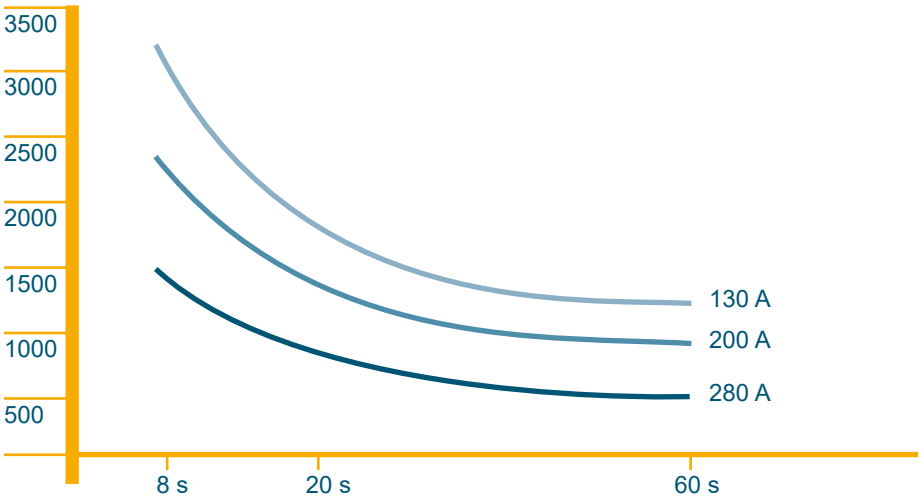
Efficient torch cooling



Bevel cutting up to 50°

PerCut torches for precise & fast cutting
The PerCut torches are equipped with an unique liquid cooling system up to the torch tip, thus achieving a very high energy density and excellent cutting results with very narrow kerfs. In connection with the high cutting speeds and the efficient cooling of the consumables, fewer emissions and waste are produced and savings in gas and energy consumption are achieved. Users improve their productivity and also reduce their costs per cutting foot.

Consumable life

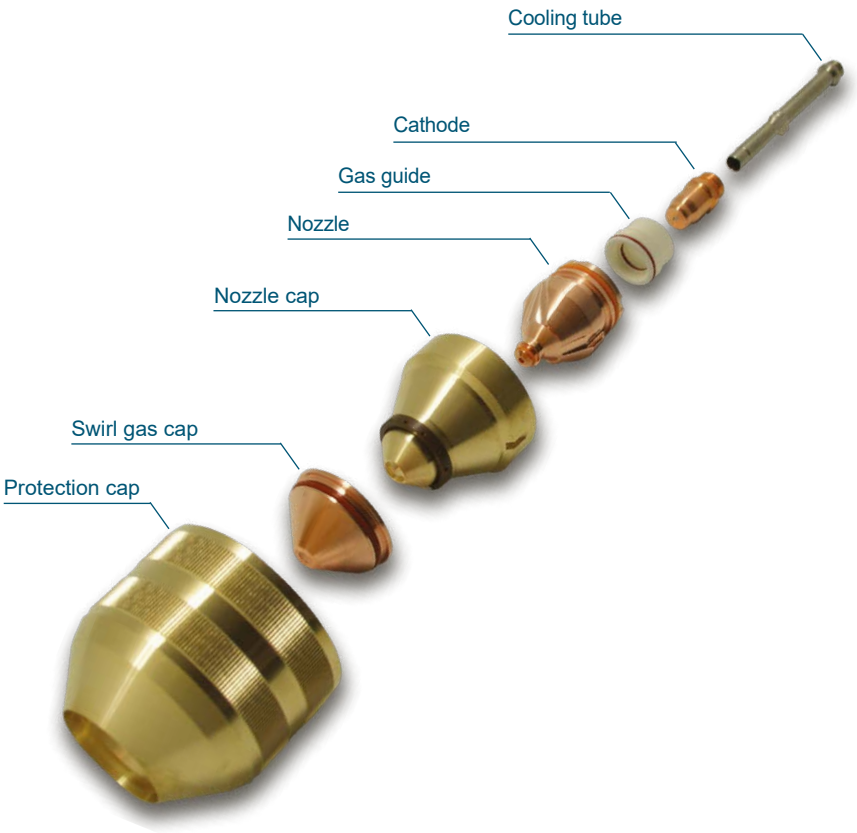


Ignitions per cutting time in seconds

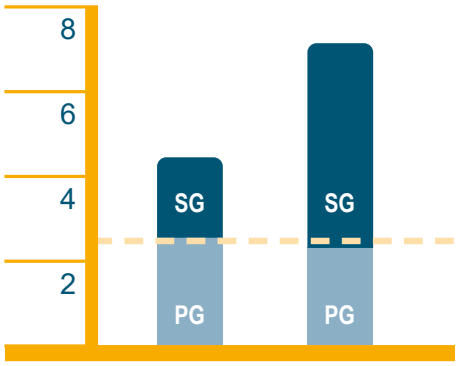
Powerful Components

Reproducible results & long lifetime
With the automatic and manual gas control units FlowControl and PGE, the optimum mixture of plasma gases is created for each cutting task. The result is a high-quality reproducible plasma cut at highest cutting speed. The automatic gas control unit FlowControl is equipped with its own database for the control of the gas quantities. Additionally to the parameters set in the factory, individual adjustments can be included.

The high-performance copper cathodes made by Kjellberg offer an excellent price-performance ratio and a long lifetime.



Gas consumption cf/min, mild steel, 400 A

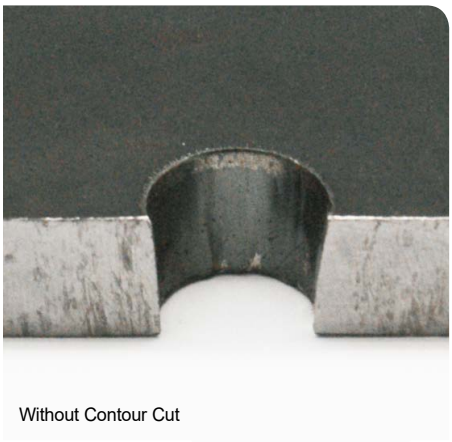


Automated gas control FlowControl

Contour Cut for Mild Steel

contour cut SPEED

With Contour Cut

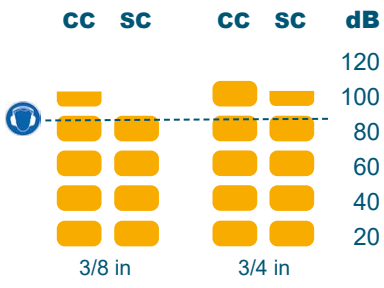


Without Contour Cut

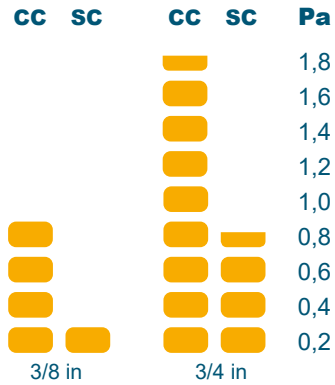
Advantages

Highest cut qualities & contour accuracy
Highest cutting speed
Fine contours & hole cutting with a ratio of 1:1
Excellent reproducibility & dimension accuracy
Without additional software and equipment
Low angular deviation

Comparison:
Contour Cut & Silent Cut



Sound pressure level



Sound pressure

Precision with Contour Cut

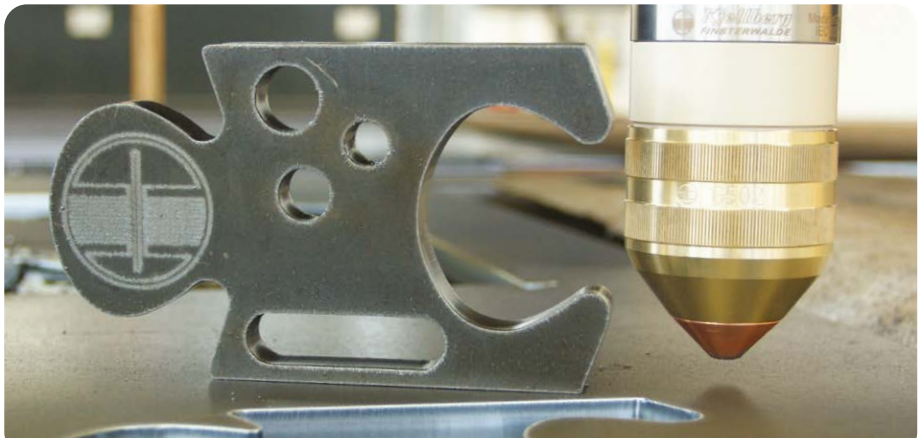
All HiFocus units use the patented Contour Cut technology for precise cutting of mild steel: finest contours, narrow webs and small holes with a diameter to material thickness ratio of 1:1 can be cut with excellent quality. The further technological development of Contour Cut Speed enables the cutting speed to be increased by 50 % with equivalent cut quality.

	Cutting speed[2] (in/min)	Cutting output/shift[1/2] (ft)	Cost per cutting foot (%)
Standard unit	71	1424	100
HiFocus neo	102	2047	69
Advantage	**+ 43 %**	**+ 43 %**	**- 31 %**

[1] 50 % cutting time, 8-hour work shift
[2] Based on conversions from metric values

Mild steel cutting with reduced sound pressure level

With the new cutting technology Silent Cut, exposure during plasma cutting is reduced by up to 15 dB (A). As a further development of the Contour Cut technology, the user cuts holes, webs and contours in a similar quality thanks to new wear parts and cutting data, thereby benefiting from the clearly reduced sound pressure level.



Stainless Steel & Aluminum

Gases mixed for each specific job
For cutting stainless steel and aluminium, the plasma units of the HiFocus neo series use Ar/H2 Mix technology. The single plasma gases are mixed for each specific job in order to achieve the best cutting results and high cutting speeds. Inner and outer contours are cut with very good contour accuracy, angularity and surface quality.

HiFinox for thin sheets
For plasma cutting of thin stainless steel less than 1/4 inch thick, HiFocus series uses the HiFinox technology. Users benefit from clean and smooth cut surfaces, narrow kerfs and a small heat-affected zone.

Ar/H2 Mix

Advantages
High cutting speed
With significantly less dross* also when cutting thicker sheets
No time-consuming re-work required
Low rectangularity tolerance

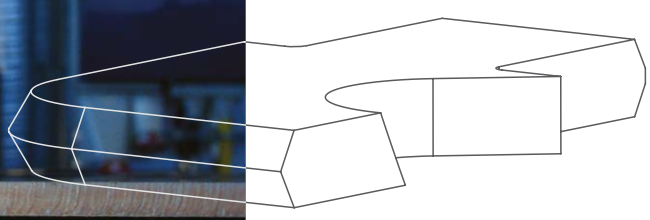
*depending on material & guiding system

0.105 inches stainless steel

Sharp cut edges

Smooth cut surfaces

Database for welding-oriented bevel cuts
PerfectBevel is a supplementary bevel cutting database with previously tested values. It can be expanded according to customer's requirements and is easy to implement. The recommended values in the database are currently based on PerCut cutting torches.



Technical data	HiFocus 280i neo	HiFocus 360i neo	HiFocus 440i neo	HiFocus 600i neo
Mains voltage[1]			3 x 480 V, 60 Hz	3 x 480 V, 60 Hz (2 x)
Fuse, slow	100 A	125 A	200 A	160 A (2 x)
Connected load	max. 67 kVA	max. 87 kVA	max. 127 kVA	max. 104 + 87 kVA
Cutting current	280 A	360 A	440 A	600 A
Marking current	5 - 50 A			
Duty cycle[2]	100 %			
Plasma gases	O_2, N_2, Air, Ar, H_2, F5[3]			
Swirl gases	O_2, N_2, Air, F5[3]			
Dimensions (LxWxH)	40.55 x 26.77 x 59.09 in 1030 x 680 x 1450 mm			40.55 x 26.77 x 59.09 in (2 x) 1030 x 680 x 1450 mm (2 x)
Mass	931 lb 422 kg	1140 lb 517 kg	1299 lb 589 kg	1145 lb + 1083 lb 519 + 491 kg

[1] Other voltages and frequencies on request
[2] Ambient temperature 104° F
[3] Forming gas F5 (95 % N_2, 5 % H_2)

03|03|23

Extract from operating data[4]

Mild steel		
A	in	in/min
20	0.018	315
35	0.036	134
60	0.135	161
90	5/16	110
130	3/8	134
	5/8	75
	1	39
160	5/8	102
280	3/8	236
	3/4	102
360	1 1/4	75
400	2	37
	2 1/4	24
600	4	9
	6	4

Stainless steel		
A	in	in/min
55	0.036	217
60	0.135	197
80	5/16	63
130	3/8	55
160	3/8	63
	5/8	43
280	5/8	75
	1 1/2	26
360	3/4	67
	1 1/2	33
440	2	30
	3	17
600	4	12
	6	5

Aluminum		
A	in	in/min
35	0.036	236
50	0.135	59
60	0.135	130
130	3/8	51
	3/4	39
160	5/8	59
	3/4	51
280	5/8	169
	3/4	150
360	4/4	157
	1 1/2	71
440	2	67
	3	33
600	3	21
	6	10

[4] Based on conversions from metric values

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