



Plasma Cutting Units.

The efficient alternative!



Plasma cutting unit C 82.

Small and portable!



Merkle Plasma cutting

Functionality and easy operation

Excellent cutting results and high efficiency are the two main arguments for the plasma cutting technology:

- Precise and continuous setting of the cutting current up to 80 A.
- Cutting performance up to 30 mm.
- Switch for: „perforated sheet cutting“
- Portable, small and light weight: only 26 kg.
- Supervision of the air pressure with warning indicator.
- Air post flow time adjustable.
- Plasma arc ignition with pilot arc.
- Plasma cutting process without pilot current.
- Central plasma torch connection for fast exchange of the torch.
- Safe operation due to a thermic sensor mounted in the power modul.
- Machine operation and adaption to robots possible (option).
- Approved for operation in confined areas, S-symbol.
- Cutting torch PR 81 with safety trigger preventing an unintentional operation.
- Option: Digital read out for cutting current.

Plasma cutting unit Model AirCUT 120 W.

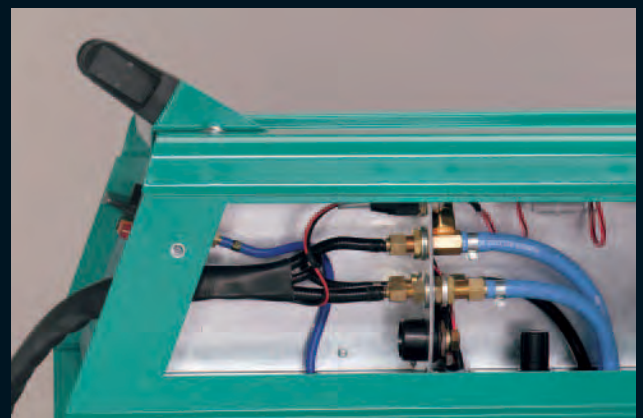
With integrated water cooling system!



Merkle Plasma cutting

Functionality and easy operation

- Integrated water cooling system.
- Extended life of the consumables, since max. temperature of the tips does not exceed 80°C at 120 A.
- Cutting performance up to 50 mm.
- Inclined front panel – protected and clearly arranged.
- Three steps: 40, 80 and 120 A.
- Lock security system.
- Approved for operation in confined areas, (S-symbol).
- Cutting torch PR 122 W with safety trigger preventing an unintentional operation.



Internal torch fittings: easy accessibility, clearly arranged, with lock security system.



Technical Data:	C 82	AirCUT 120 W					
		120 A step		80 A step		40 A step	
		without	with 300 µF	without	with 300 µF	without	with 300 µF
Compensation							
Power supply	3 x 380 - 440 V [230 V]	3 x 400 V					
Frequency	50-60 Hz	50 [60] Hz					
Max. current	20 A	48 A	37 A	34 A	26 A	20 A	13 A
cos phi	0.99	0.5	0.7	0.7	0.8	0.8	0.85
Continuous power	6.9 kVA						
Continuous current	10 A	13.8 kVA					
Open circuit voltage	320 V	280 V					
Cutting voltage	80 - 112 V	100 V					
Cutting current	20 - 80 A	120 A		80 V		40 A	
Duty cycle 35 % [10 min.]	80 A						
Duty cycle 60 % [10 min.]	60 A	120 A					
Duty cycle 80 % [10 min.]				80 A			
Duty cycle 100 %	40 A					40 A	
Performance	max. 30 mm	max. 50 mm					
Energy control	continuous adjustable	3 steps					
Perforated sheets cutting	switch	-					
Cutting gas	compressed air	compressed air					
Pressure indicator	pressure gauge	pressure gauge					
Pilot current	timer controlled	timer controlled					
Air post flow time	adjustable	adjustable					
Torch cooling	compressed air	integrated water cooling system					
Plasma connection	plasma central connector	plasma central connector					
Power source	inverter	transformer					
Protection	IP 23	IP 23					
Norm	EN 60974-1 "S"/CE	EN 60974-1 "S" / CE					
Weight	26 kg	240 kg					
Dimensions L x W x H	535 x 230 x 465 mm	730 x 520 x 905 mm					

Technical details are subject to change.

Plasma cutting torch for C 82

PR 81, gas cooled



PR 81 M, gas cooled



Cutting current: 80 A / 100 V = 8 kW (60%)

Plasma cutting torch for AirCUT 120 W

PR 122 W, water cooled



PR 121 W-M, water cooled



Cutting current: 120 A / 100 V = 12 kW (60%)

Merkle Plasma Cutting Units.

The efficient alternative!

Plasma cutting with compressed air is being used more every day as an alternative to acetylene cutting.

All conductive metals, hardened or non-hardened steels, alloys, aluminium and its alloys, copper, brass, cast iron and titanium can be easily cut with plasma. Plasma cutters are used in various branches as steel construction, assembly works, repairs, automobile repairs etc.

The success of plasma cutting is simply the plasma beam, an electric arc, which produces an extremely narrow and intensive arc, with limited heat.

The arc temperature is approximately 13000°C. Under this intensive heat the work piece heats so quickly that lateral heat transfer is limited to a minimum. This heat concentration, combined with an applied energy of 106 W/cm² provides rapid cutting and a small cut.

Narrow cut width with high linear cutting speeds positively effects:

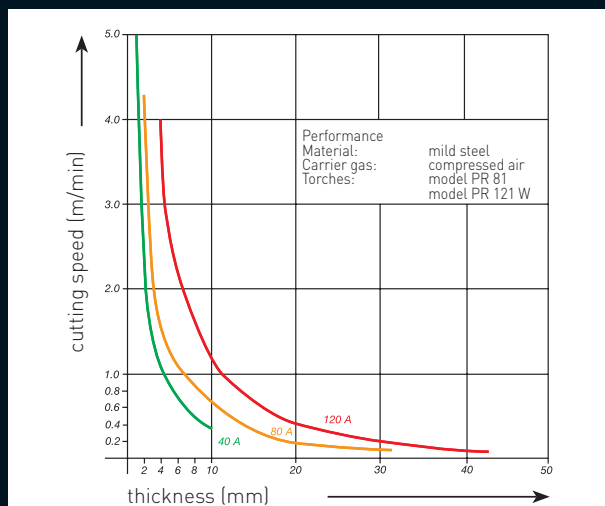
- Less raw material consumption.
- Low energy costs.
- Less material distorsion.
- Reduced wages.
- Better logistic requirement.

Cutting performance

Cutting performance, cutting speed and current depend on each other. The diagram shows the cutting speed in relation to the cutting performance for different currents.

Operating costs

An important factor in cutting materials is always the use and price of the carrier gas. Compressed air is easily available for a very low price. Due to a low demand quantity of the compressed air, the plasma cutting is a very economical method.





Create your future successfully.

With Merkle. Your specialist for welding units, welding machines, torches and intelligent automation systems. With own subsidiaries and Merkle dealers in Germany, Europe and many other countries throughout the world.

Welcome to Merkle.

- MIG/MAG Welding Units
- Synergic Pulse Welding Units
- TIG Welding Units
- MMA / Stick Electrode Welding Units
- Plasma Welding and Cutting Units
- Turntables and Roller Drive Units
- Welding and Cutting Torches
- Automation Components and Solutions
- Merkle Robotics

www.merkle.de