CEBORA
welding&cutting


2023

# automation catalogue

## PLASMA PROF 180 - 300 HQC

CEBORA welding&cutting

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# Global partner

Production efficiency, excellent value for money, prompt deliveries and minimum product risk, are at the basis of CEBORA's philosophy.
A dynamic and highly efficient sales force works together with the marketing department and technical assistance service, to meet the needs of customers around the world.

Thanks to the selection and continuous implementation of specific services provided to importers and distributors, CEBORA is able to rapidly and successfully deliver its products to every corner of the world.

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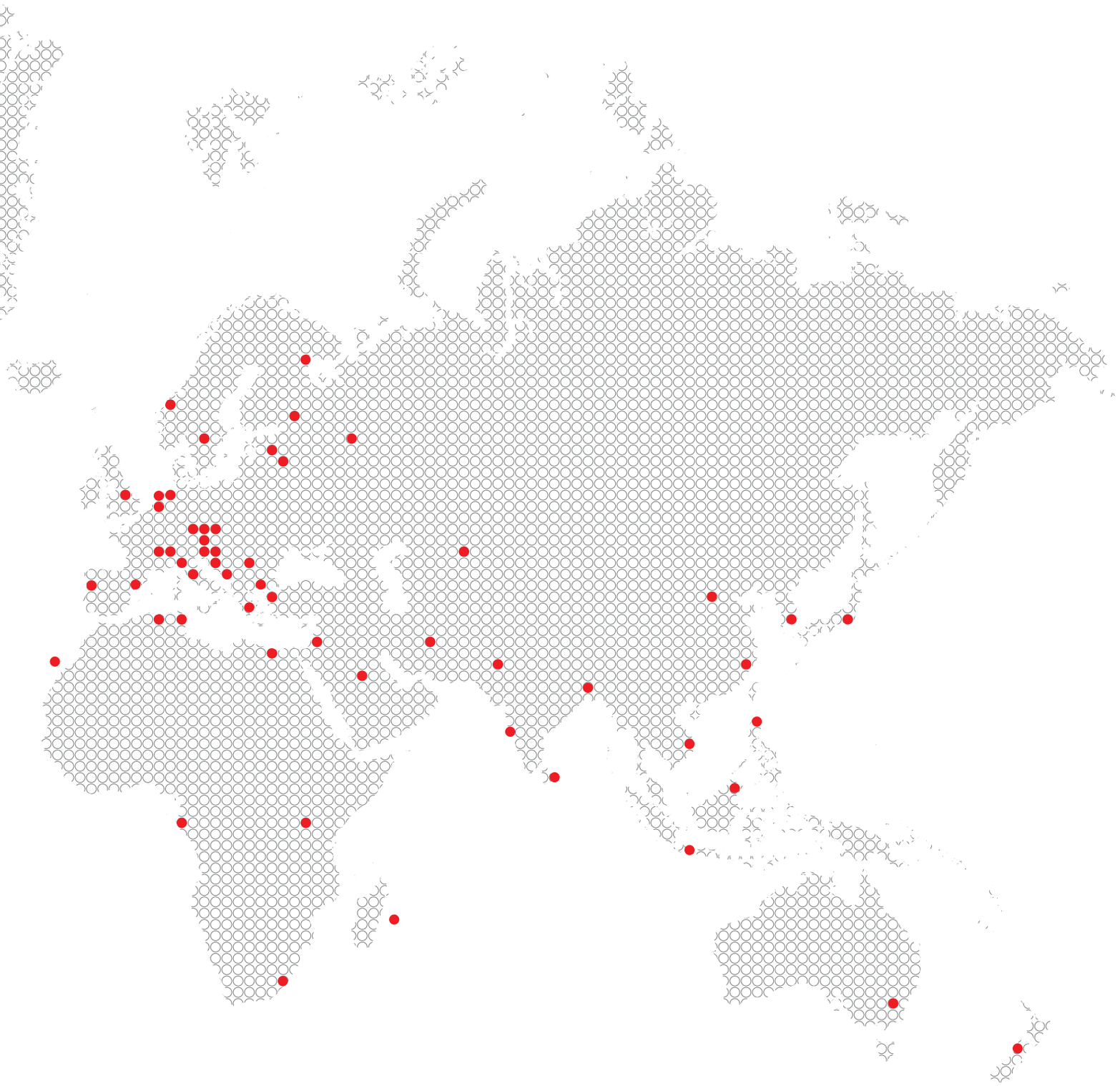


CEBORA welding&cutting

GEFRA automazione

# PLASMA PROF 180 HQC - 300 HQC

Latest generation **ARM microprocessor** with an unprecedented computing power for a state-of-the-art plasma cutting system designed and built today for tomorrow's needs.
A totally new, reliable, open and flexible hardware and software platform, heart and brain of the whole new family of **HQC** power sources: **PROF 180** and **PROF 300**.
An even faster and more accurate control of the cutting parameters for a further improvement of the **quality** and **performance** of our HQC -High Quality Cutting - on all types of metal.



All the HQC systems have available a **USB port** for an easy **software updating** by pen-drive, downloading **free of charge** from our website the latest release

Wide choice of **interfaces** between CNC/Robot controller and HQC plasma cutting system.
In fact, both the conventional **Analogic** interface with discrete signals and the **Digital** ones are available, with the most known and widespread Industrial Fieldbuses: DeviceNet, PROFIBUS, CANopen, EtherCAT.

The new **CP455G** torch allows bevel cutting angle of up to **55°.**

Such feature involves a reduced surface of the consumables exposed to melted spatters that, together with the internal cooling improvement, special current profiles and gas timings allow excellent performances of the new HQC plasma system concerning the cut **quality**, the **piercing** capacity and the **life span** of the consumables.


A single torch available in versions
**short** (Art.1640) for **3D** cutting,
**long** (Art.1642) for **2D** cutting
**robot** (Art.1639) for robotic systems.
A **single family of consumables,** completly new, suitable both for **straight** and **bevel** cuts, which ensures maximum **user-friendliness** and **optimization** for stock management.

The new version of the **manual plasma gas console** is a **modular** system including three separate units:

**PGC-D**:
the main unit to program the cutting parameters for every possible material and gas combination

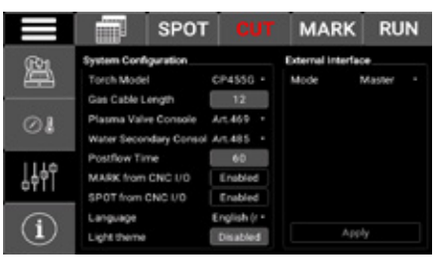
Two separate **optional** units dedicated to Stainless Steel and Aluminum:

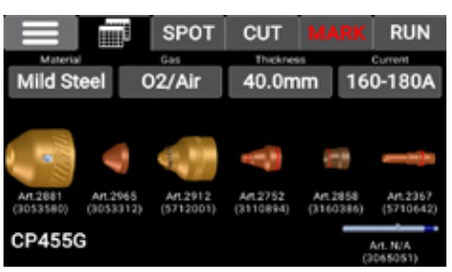
**PGC-H2**:
For gas cutting by Hydrogen mixtures

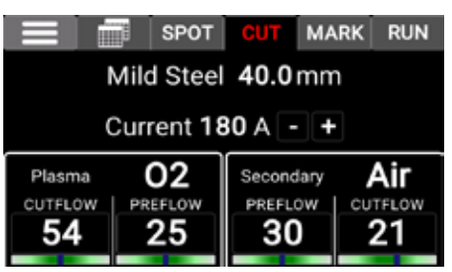
**WSC:**
For water cutting as secondary

**PGC-D – P**lasma **G**as **C**onsole-**D**igital (art.480):
It is the core unit of the new manual plasma gas console and represents the complete stand-alone solution for **Mild Steel** as well as the entry-level for Stainless Steel and Aluminium.


The **7" colour touchscreen** panel makes even easier and more intuitive the **synergic configuration** of the cutting parameters
A unique solution for **error-proof** programming, currently even easier through a **multilingual** user menu.






The processes of **cutting** and **indentation marking** using **O2** (Oxygen), **Air** and **N2** (Nitrogen) are handled through the PGC-D.
It is also allowed to **automatically** manage the switch between cutting and **marking** with **Ar** (Argon) through a simple digital signal from CNC, up to now just possible through the Automatic version of the gas console

**PGC-H2 – P**lasma **G**as **C**onsole-**H2** (art.487), optional:
This unit, combined with PGC-D, allows the cutting of **Stainless Steel** and **Aluminum** with the Hydrogen mixtures **H35** (35% Hydrogen and 65% Argon) and **F5** (5% Hydrogen and 95% Nitrogen)


- High quality cut of Stainless Steel medium-high thickness
- ATEX-compliant components

**WSC – W**ater **S**econdary **C**onsole (art.485) optional:
This unit, combined with the PGC-D, allows to cut **Stainless Steel** and **Aluminium** using only **N2** (Nitrogen) as plasma gas and **H2O** (water) as secondary fluid.


- Cutting of thin Stainless Steel film-coated plate
- No heat-affected zone
- High cutting speeds
- Weldability both by MIG and TIG processes
- Extremely low operating costs

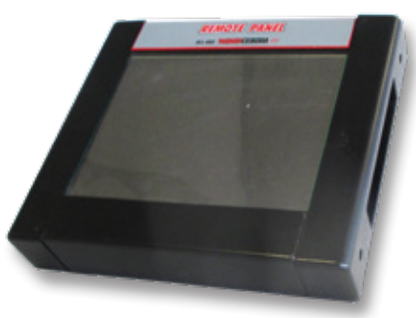
**APGC – A**utomatic **P**lasma **G**as **C**onsole (art.466)
The perfect solution for a completly automatic plasma cutting system, suitable for every material and gas combination.


- Real time gas control and adjustment
- Fully automatic management of cutting, marking and spot-marking processes
- Optional WSC unit for Stainless Steel and Aluminum cut by N2-H2O

With the APGC you have two alternatives:

> Make an automatic and **totally integrated** cutting system, implementing in the CNC/Robot Controller also the user interface (HMI) for the programming of the cutting parameters.
This solution involves the use of the HQC power sources version with **digital interface**, thus also allowing the **JOB Operating Mode** typical of the robotic installations

> Make an automatic and **partially integrated** cutting system combining the console to the **HQC CONTROL PANEL** (art.460.01), remote programming unit equipped with a 10" colour touchscreen panel.



**HV19/PVC** (art.459)
A new patented unit including in one single box both **the HF ignition and the gas valves** (Fig.1a - 1b), usually hosted in two separated units (Fig.2), thus allowing a **compact** and **universal** HQC system layout

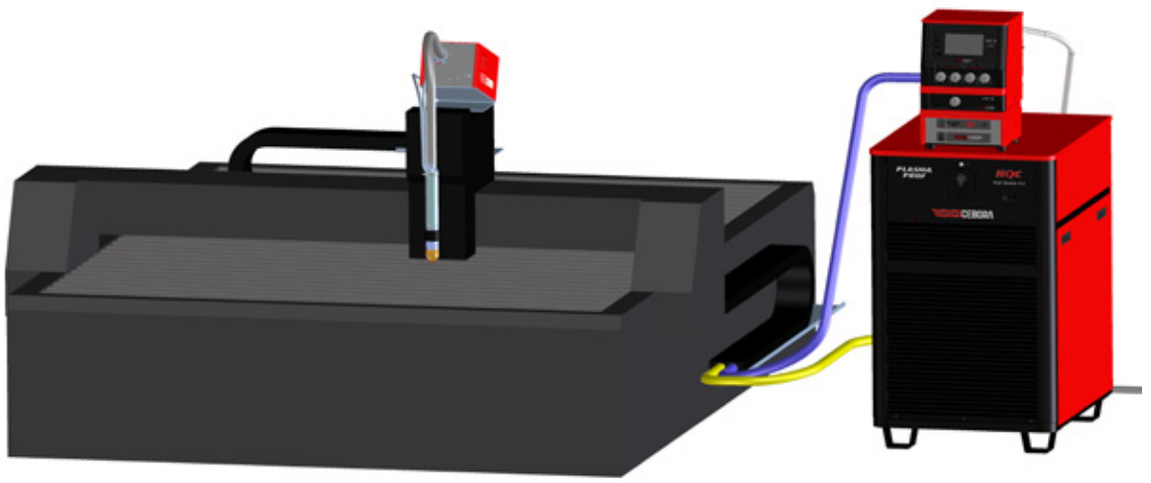


Fig.1a - front view

This solution let you use just one HQC torch length: one **single torch** 1,5 meter long (Art.1642.02) **whatever is the gantry width**, to be installed **out of the drag chain**.

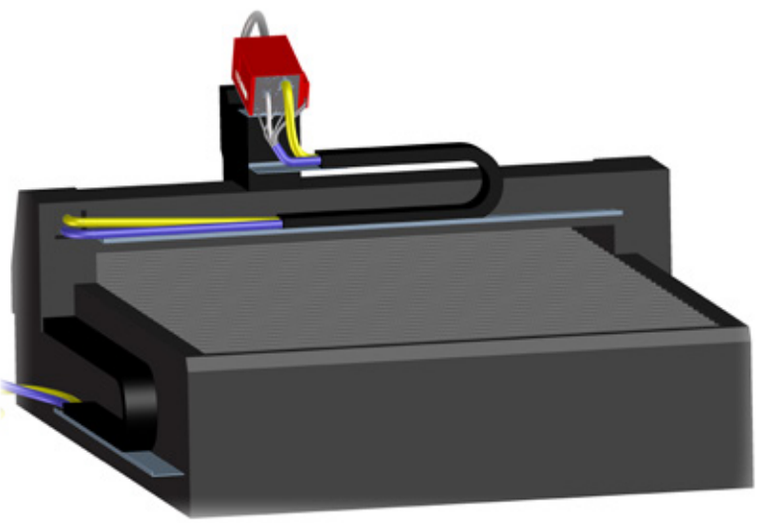


Fig.1b - back view

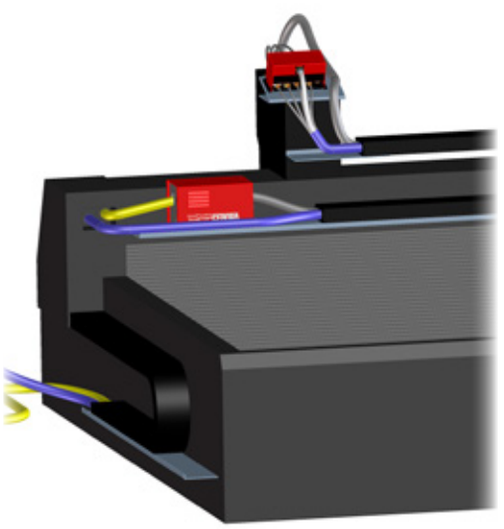
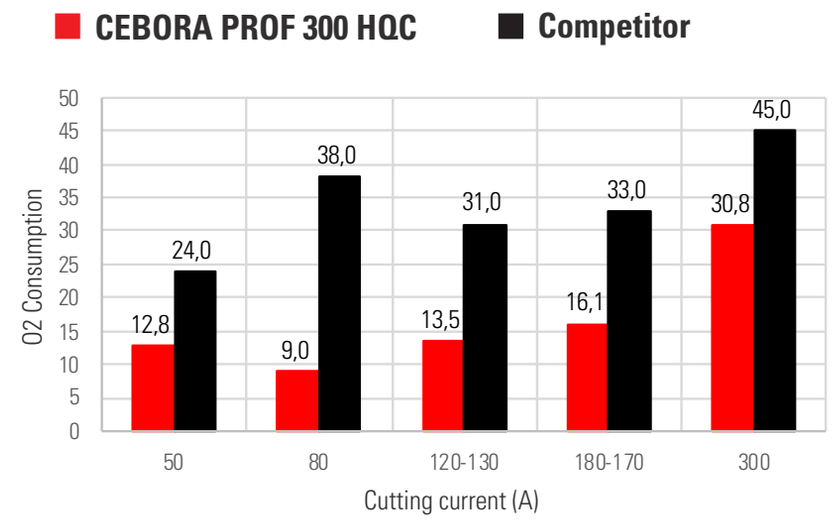


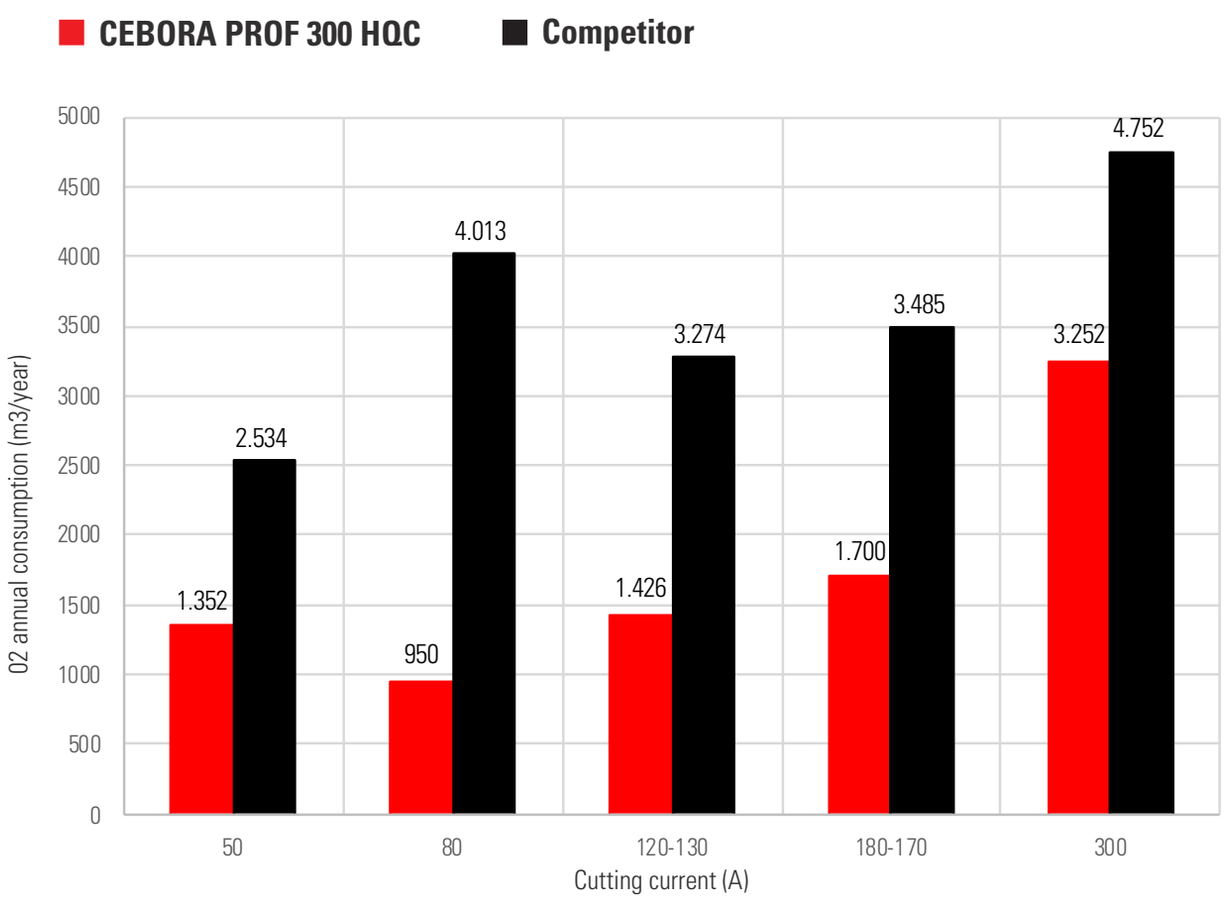
Fig.2- back view

An extremely **cost-effective option** allowing a drastic **standardization** of the complete automatic plasma cutting system in addition to a great **simplification** of its maintenance and **optimization** of the relevant components and spare parts stock.

The new CP455G torch with original branded consumables, the optimal handling of gas flows and all stages of the cutting process, ensure our HQC plasma cutting systems an exceptionally low **O2** (Oxygen) **consumption** when cutting **Mild Steel**




The reduced O2 consumption combined with the **high cutting speeds**, allows to get an extremely **low cost per linear meter** of cutting, thus ensuring the user a **quick payback** of his investment.



**Main performance of the new HQC plasma cutting system:**

**Mild Steel with O2-Air** (system layout with PGC-D manual gas console only):

Cutting quality between ISO range 2 and 4

Piercing capacity:
- 40 mm @ 180 A
- 50 mm @ 300 A

Consumables life span:
- + 100% @ 180 A compared to HQC 250 A
- + 400% @ 300 A compared to HQC 420 A

**GIOTTO Technology:**
High precision **holes** featuring minimum taper. Extremly high repeatability and accuracy for thickness from **3** to **30 mm** with **1:1** minimum diameter versus thickness ratio.
No additional system is required

**Stainless Steel and Aluminium with H35-N2 or N2-H2O**
(system layout with PGC-D manual gas console plus the optional unit PGC-H2 or WSC)

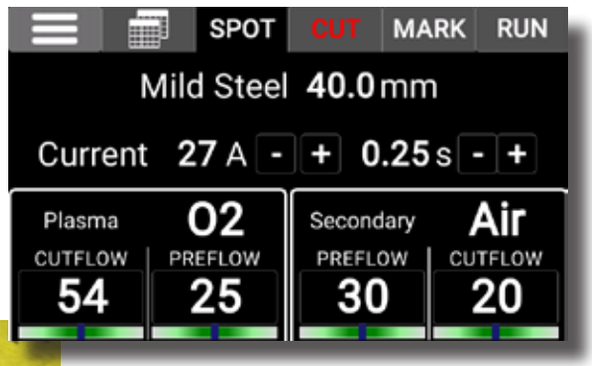
Cutting quality between ISO range 2 and 4

Piercing capacity:
- 30 mm @ 180 A
- 40 mm @ 300 A

**Special functions** available both with manual and automatic gas console

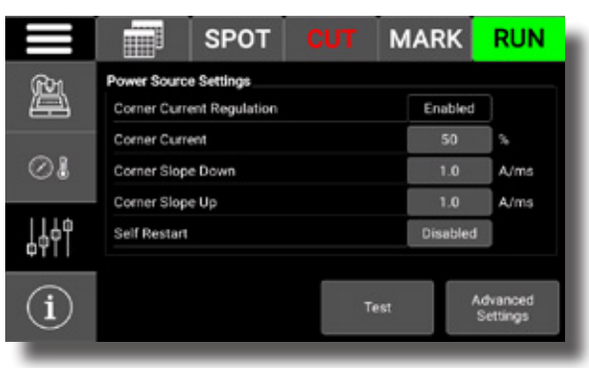
**Indentation marking:**

Using the **same setup** as the cutting process it is possible to program both the current (from 10 A to 39 A) and the relevant supply time (from 0.01 s to 1.0 s) in order to adjust **diameter** and **depth** of the marking point




**Corner:**

In order to **minimize the removal of material** at the corners, it is possible to program a corner current lower than the nominal one (down to 20%) and the relevant slope up and down




By the optional **kit Extended CNC interface** (art.425) it is also possible to adjust real time the corner current from the CNC through a dedicated analog signal (0-10) Vdc.

art. 968

# PLASMA PROF 180 HQC

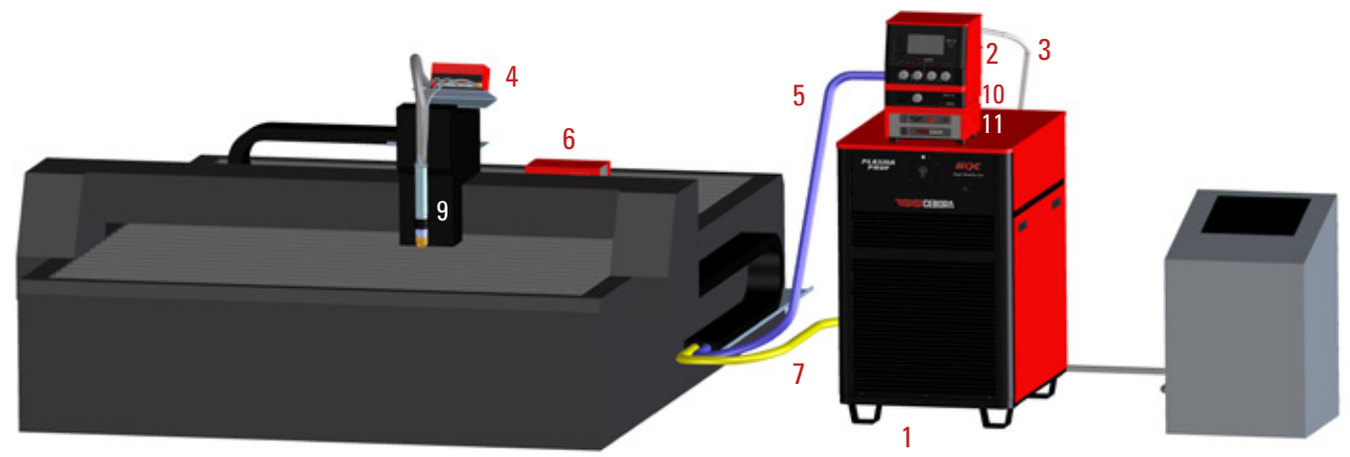
| | |
|---|---|
| Alimentazione trifase<br>*Three phase input* | **230 V**<br>**400 V**<br>**440 V**<br>**50/60 Hz**<br>**± 10%** |
| Fusibile ritardato<br>*Fuse rating (slow blow)* | **125 A**<br>**80 A**<br>**63 A** |
| Potenza max assorbita con CP 455G<br>*Max input power with CP 455G* | **40 kVA ± 10%** |
| Campo di regolazione della corrente<br>*Current adjustment range* | **10 A ÷ 180 A** |
| Fattore di servizio (10 min. 40° C)<br>Secondo norme IEC 60974.1<br>*Duty Cycle (10 min.40°C)*<br>*According to IEC 60974.1* | **180 A 100%** |
| Regolazione continua<br>*Stepless regulation* | **Electronic** |
| Grado di protezione<br>*Protection class* | **IP 21 S** |
| Peso<br>*Weight* | **380 kg** |
| Dimensioni (LxPxH) mm<br>*Dimensions (WxLxH) mm* | **750x1370x1310** |

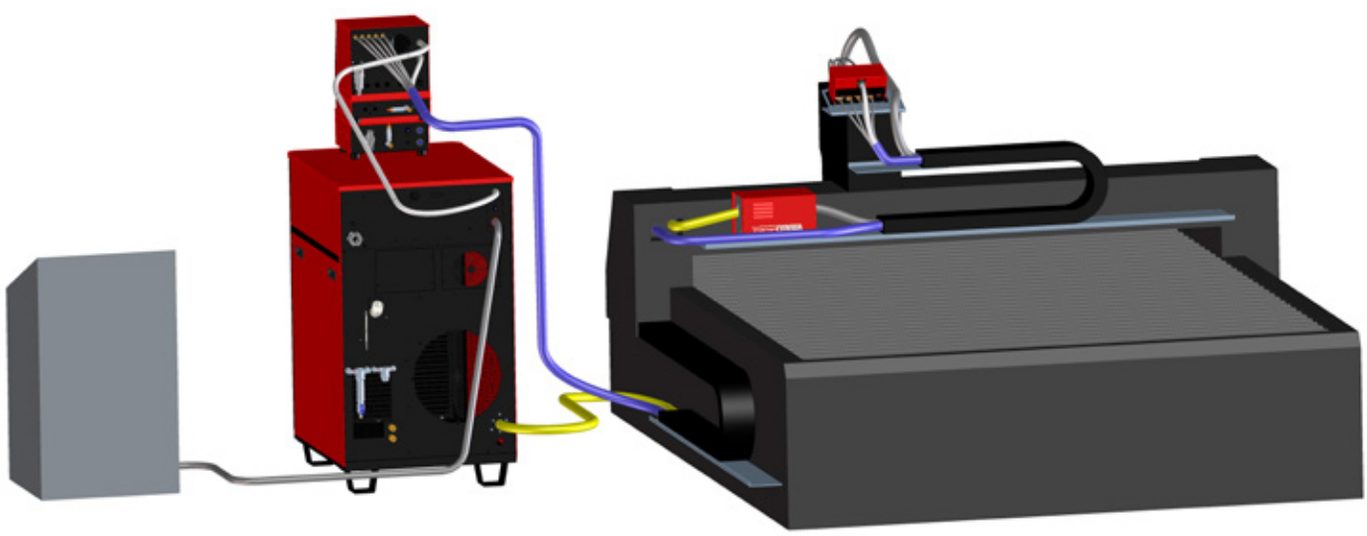
art. 969

# PLASMA PROF 300 HQC

| | |
|---|---|
| Alimentazione trifase<br>*Three phase input* | **230 V**<br>**400 V**<br>**440 V**<br>**50/60 Hz**<br>**± 10%** |
| Fusibile ritardato<br>*Fuse rating (slow blow)* | **200 A**<br>**125 A**<br>**100 A** |
| Potenza max assorbita con CP 455G<br>*Max input power with CP 455G* | **66 kVA ± 10%** |
| Campo di regolazione della corrente<br>*Current adjustment range* | **10 A ÷ 300 A** |
| Fattore di servizio (10 min. 40° C)<br>Secondo norme IEC 60974.1<br>*Duty Cycle (10 min.40°C)*<br>*According to IEC 60974.1* | **300 A 100%** |
| Regolazione continua<br>*Stepless regulation* | **Electronic** |
| Grado di protezione<br>*Protection class* | **IP 21 S** |
| Peso<br>*Weight* | **450 kg** |
| Dimensioni (LxPxH) mm<br>*Dimensions (WxLxH) mm* | **750x1370x1310** |

# HQC plasma system with separated HF unit and Valves unit layout for CNC machine



## Legenda

**1** Power source

**2** Gas console

**3** Power source-Gas console connection

**4** Valves unit

**5** Gas console-Valves unit connection

**6** HF ignition unit

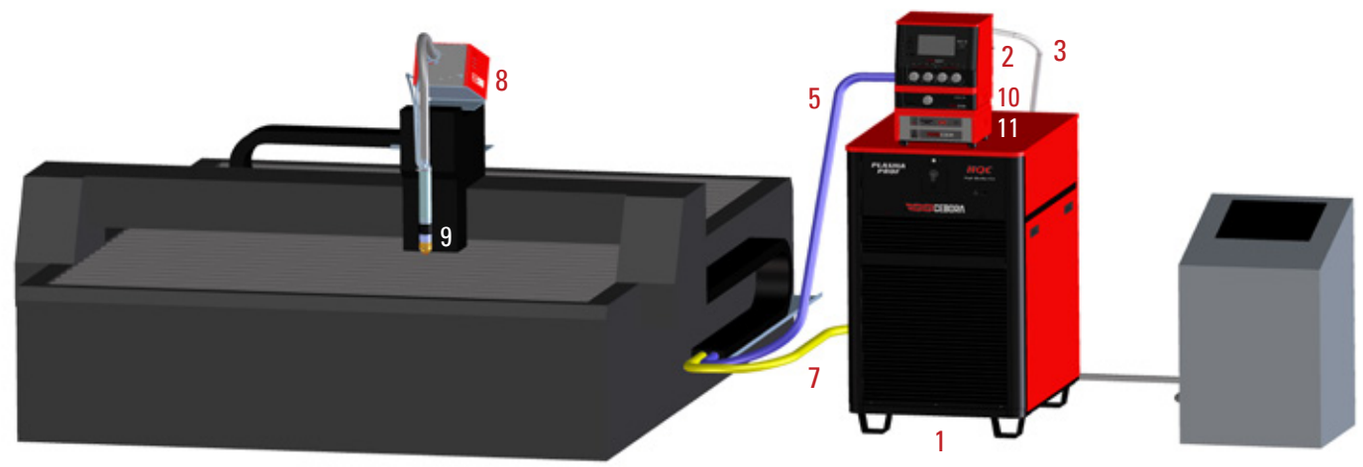
**7** Power source-HF ignition unit connection

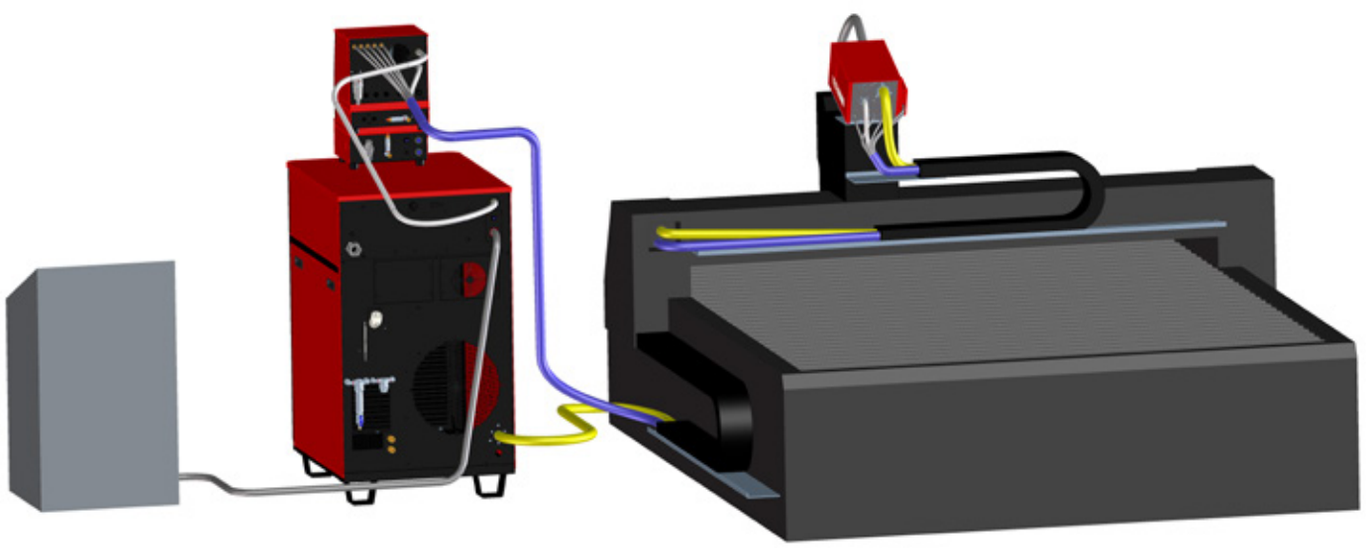
**9** Torch

**10** Optional gas console

**11** Optional water console

# HQC plasma system with integrated HF + Valves unit layout for CNC machine



## Legenda

**1** Power source

**2** Gas console

**3** Power source-Gas console connection

**5** Gas console-Valves unit connection

**7** Power source-HF ignition unit connection

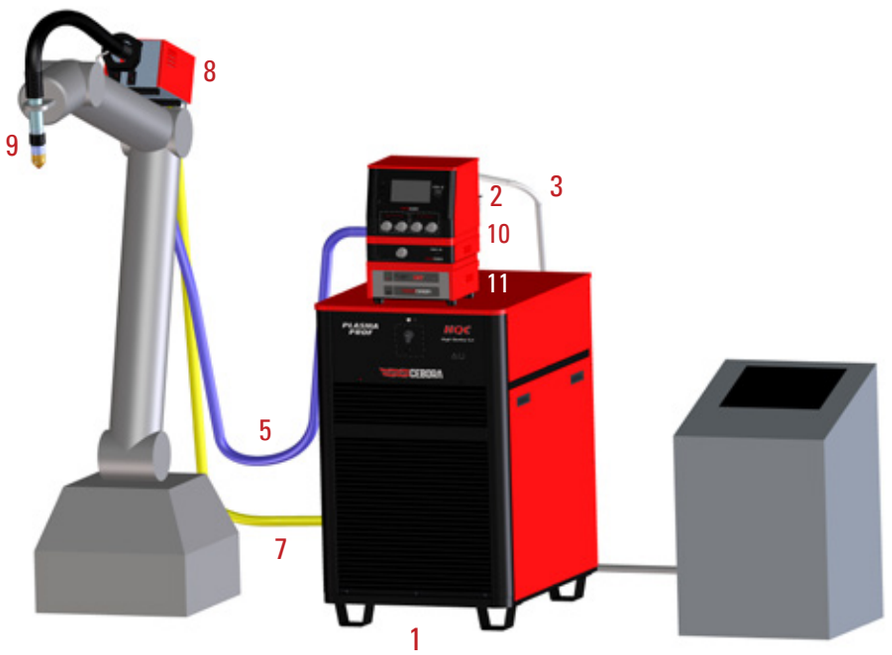
**8** Integrated HF ignition + Valves unit

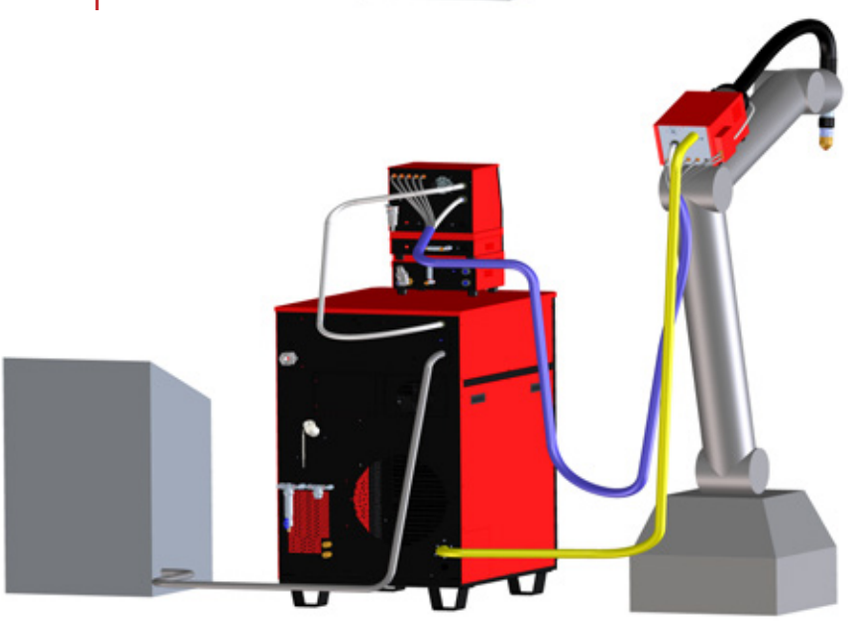
**9** Torch

**10** Optional gas console

**11** Optional water console

# HQC plasma system with integrated HF + Valves unit layout for robot



## Legenda

**1** Power source

**2** Gas console

**3** Power source-Gas console connection

**5** Gas console-Valves unit connection

**7** Power source-HF ignition unit connection

**8** Integrated HF ignition + Valves unit

**9** Torch

**10** Optional gas console

**11** Optional water console

# HQC plasma system equipped with automatic gas console


## Legenda

**2** Automatic gas console

**12** Remote control panel

**13** Power source-Remote control panel connection

# CP trademark

**The CP registered trademark identifies Cebora original consumables for plasma power sources. Cebora strongly recommends the use of original CP consumables, as they are the only parts capable of guaranteeing the expected power source-torch combination performance.**

The geometry and materials chosen for CP consumables are decided when the power source and the torch are designed and represent the best compromise between part performance, reliability and lifetime, in compliance with IEC60974-7 standards.

Cebora shall therefore not be liable in case of accident, and all warranties on machine and torch shall become void.

The use of non-original parts may also cause:

› Overheating of the power source

› Electronic circuit breakage

› Short-circuits in a process that uses voltages higher that 250 V D.C.

Thus any saving in purchasing non-original consumable materials in merely apparent.

# HQC system components

| Pos. 1 | Power source |
|---|---|
| **art. 968** | PROF 180 HQC - CNC/Robot Analogic interface |
| **art. 968.40** | PROF 180 HQC - CANopen CNC/Robot Digital interface |
| **art. 968.41** | PROF 180 HQC - PROFIBUS CNC/Robot Digital interface |
| **art. 968.42** | PROF 180 HQC - DeviceNet CNC/Robot Digital interface |
| **art. 968.43** | PROF 180 HQC - EtherCAT CNC/Robot Digital interface |
| **art. 968.44** | PROF 180 HQC - Ethernet/IP CNC/Robot Digital interface |
| **art. 969** | PROF 300 HQC - CNC/Robot Analogic interface |
| **art. 969.40** | PROF 300 HQC - CANopen CNC/Robot Digital interface |
| **art. 969.41** | PROF 300 HQC - PROFIBUS CNC/Robot Digital interface |
| **art. 969.42** | PROF 300 HQC - DeviceNet CNC/Robot Digital interface |
| **art. 969.43** | PROF 300 HQC - EtherCAT CNC/Robot Digital interface |
| **art. 969.44** | PROF 300 HQC - Ethernet/IP CNC/Robot Digital interface |

| Pos. 2 | Console |
|---|---|
| **art. 480** | PGC-D Manual gas console for Air, O2, N2, Ar. |
| **art. 466** | APGC Automatic gas console for Air, O2, N2, H35, F5, Ar |

| Pos. 3 | Power source-Gas console connection |
|---|---|
| **art. 1189.01** | Power source-Gas console connection – 1,5 m |
| **art. 1189.10** | Power source-Gas console connection – 12 m |
| **art. 1189.20** | Power source-Gas console connection – 18 m |

| Pos. 4 | Valves unit |
|---|---|
| **art. 469** | PVC Valves unit |

| Pos. 5 | Gas console-Valves unit connection |
|---|---|
| **art. 1166.01** | Gas console-Valves unit connection – 6 m |
| **art. 1166.02** | Gas console-Valves unit connection – 9 m |
| **art. 1166.10** | Gas console-Valves unit connection – 12 m |
| **art. 1166.20** | Gas console-Valves unit connection – 20 m |
| **art. 1166.25** | Gas console-Valves unit connection – 25 m |
| **art. 1166.30** | Gas console-Valves unit connection – 30 m |

| Pos. 6 | HF ignition unit |
|---|---|
| **art. 464** | HV19/1 HF ignition unit |

| Pos. 7 | Power source-HF ignition unit connection |
|---|---|
| **art. 1169.01** | Power source-HF ignition unit connection – 6 m |
| **art. 1169.02** | Power source-HF ignition unit connection - 9 m |
| **art. 1169.10** | Power source-HF ignition unit connection – 12 m |
| **art. 1169.20** | Power source-HF ignition unit connection – 18 m |
| **art. 1169.30** | Power source-HF ignition unit connection – 27 m |
| **art. 1169.60** | Power source-HF ignition unit connection – 30 m |

# HQC system components

| Pos. 8 | HV19/PVC Integrated HF ignition + valves unit |
|---|---|
| **art. 459** | HV19/PVC Integrated HF ignition + valves unit for CNC machine |
| **art. 462** | HV19/PVC Integrated HF ignition + valves unit for robot |

| Pos. 9 | Torch |
|---|---|
| **art. 1639.02** | CP455G Bevel torch for robot – 1,6 m |
| **art. 1640.05** | CP455G Bevel torch short sleeve (294 mm) for CNC machine – 5 m |
| **art. 1640.07** | CP455G Bevel torch short sleeve (294 mm) for CNC machine - 7,5 m |
| **art. 1640.09** | CP455G Bevel torch short sleeve (294 mm) for CNC machine – 9 m |
| **art. 1640.12** | CP455G Bevel torch short sleeve (294 mm) for CNC machine – 12 m |
| **art. 1642.02** | CP455G Bevel torch long sleeve (386 mm) for CNC machine with art.459 – 1,5 m |
| **art. 1642.05** | CP455G Bevel torch long sleeve (386 mm) for CNC machine – 5 m |
| **art. 1642.07** | CP455G Bevel torch long sleeve (386 mm) for CNC machine - 7,5 m |
| **art. 1642.09** | CP455G Bevel torch long sleeve (386 mm) for CNC machine – 9 m |
| **art. 1642.12** | CP455G Bevel torch long sleeve (386 mm) for CNC machine – 12 m |

# HQC system accessories

| Pos. 10 | Gas console |
|---|---|
| **art. 487** | PGC-H2 Manual gas console for H35, F5<br>(to be coupled only to art.480) |

| Pos. 11 | Water console |
|---|---|
| **art. 485** | WSC Automatic water secondary console<br>(to be coupled to art. 480 or 466) |

| Pos. 12 | Remot control panel |
|---|---|
| **art. 460.01** | CONTROL PANEL Remote control panel<br>(to be coupled only to art.466) |

| Pos. 13 | Power source-Remote control panel connection |
|---|---|
| **art. 1199.00** | Power source-Remote control panel connection – 5 m |
| **art. 1199.20** | Power source-Remote control panel connection – 10 m |

# Other accessories & kit

**art. 425** Extended analogic interface kit

**art. 1289.10** Work return lead – 12 m, 70 mm2

**art. 1514** Cooling liquid - 2x5 liters

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