

# **RADOX** PLASMA& OXYFUEL CUTTING CNC MACHINE



2000 \* 6000 mm

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RADOX has introduced the latest plasma cutting CNC machine called RADO FIRE to industrial companies, which has been described in below.

**RADO SMART CNC's** are manufactured cooperating(technical cooperating) with KJELLBERG Company (Germany) in Iran and due to the capabilities and high precision of this type of CNC, can be adapted with all types of international plasma units.

**Controller** of RADO FIRE are the latest RADOX engineering and R&D department achievement.

Easy training and simple operating and user friendly are advantages of these type of RADOX controllers.

Regarding **Plasma unit** of RADO FIRE, with just a few settings the new plasma cutting units of the **CUTFIRE 100i** series achieve excellent results in the cutting range from 1 to 40 mm. Even under challenging conditions highest cutting quality and speed are realized.

Therefore we use our proven cutting technologies as for example Contour Cut for cutting mild steel. The optimized gas control units and torches protect the consumables; reduce the gas consumption and the costs per cutting meter.

**Height control units (RADOX HC2)** have an enormous influence on the cutting quality, the lifetime of the consumables and the process stability. It is crucial for the quality of the cutting results to adjust the

right distance between plasma torch and work piece and to keep it constant. The used height control systems are dynamic and voltage-dependent in order to always ensure the optimum cutting height.

113 داخلی 021-2776



## RADO FIRE GENERAL TECHNICAL SPECIFICATION

CNC MODEL: LYNX	Height control: HC2
Controller: RADOX C2	Plasma unit: CUT FIRE100i KJELLBERG(GERMANY)
Plasma marker	Under water plasma
Cutting thickness : 1mm-40mm	Cutting cost: 1/2 flame cut
Cutting speed: 4 times flame cut	Cutting surface quality: GOOD
Energy Guide for plasma cable, duct	Oxy fuel torch : For cutting up to a thickness of 300 mm
Ac Servo motor Double drive	Sheet Align · Nesting · Piercing
Mono block structure	Sparker, LM guide, motor Z
5 axis CNC cutting head(optional)	Water tank(steam absorber) (OPTIONAL)

Technical specification (RADO SMART)

### 1. CNC TECHNICAL DATA

CNC technical data	
Effective Cutting Width	2010 mm
Effective Cutting Length	6010 mm
Overall width	3800 mm
Overall length	7400 mm
Weight ~	4500 kg
Height	1950 mm
Flame cutting torch RADOX	(Max thickness=0.5~300 mm)
Max positioning speed	15000 mm/min
Positioning Accuracy	± 0.3 mm
Torch Vertical Movement	300 mm
X Motion	Linear motion Guide(LM guide)
Y Motion	Rack and Pinion(RADOX)-AC servo motor
Z axis	Screw(RADOX)-LM Guide- AC motor + gear box
Rail machining of all axis	
Strong Industrial profiles structure , mono block structure	
Double drive (two AC servo motors in both (X) axis)	
Sparker(RADOX)	

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CNC pipe cutter (optional)
5 axis CNC beveller (optional)
Gear box zero back lash planetary gear box for AC servo
Water tank OPTIONAL
Solenoid valves
Motor Z
Gauges specification: Working Range: 1-10 Bar
Regulator specification Working Range: 1-10 Bar
Encoder specification: P/R 2500
Rails Specification: Linear Motion Guide
AC Servo
Relay specification : 24 VDC
Flame bevel torch
Coating electrostatic powder painting
Electric box protection IP50

## 2. RADOX C2 HIGH PERFORMANCE POSITION CONTROL

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Axes	4 axes
Digital input	24 isolated NPN and PNP inputs
Digital output	16 open drain outputs with short circuit protector
Analog output	2 analog outputs
PWM output	2 PWM outputs with adjustable frequency
Pulse rate	500000 pulses per second
Command pulse type	Pulse-Direction
Acceleration range	50mm/s <sup>2</sup> to 30000mm/s <sup>2</sup>
Velocity profile type	S-Curve
Hardware buffer size	2000 blocks FIFO with time expander for safety
Handshaking time	20ms
Isolation type	Opt coupler
Data connection type	100Mb/s LAN – TCP Protocol
Data connection cable length	Up to 20m with UTP / Up to 50m with SFUTP
Hardware lock	24 time locks with internal clock
Power	16v...32v - 300mA
Dimension	24.4cm x 12.5cm
Control type	Open loop position control
Accessory	Wireless remote



### 3. PLASMA UNIT CUT FIRE 100i KJELLBERG (GERMANY)

**Kjellberg**  
**FINSTERWALDE**

Welding   Hardfacing   **CUTFIRE**   Engineering

PLASMA CUTTING



ÜBERBLICK  
OVERVIEW

Vorteile CutFire 100i®  
Advantages CutFire 100i®

**Neu: CutFire 100i mit Flash 101**  
**New: CutFire 100i with Flash 101**



## ÜBERBLICK OVERVIEW



### CutFire 100i mit Flash 101\*

Schneidstrom	100 A
Schneidbereich	bis 20 mm**
Plasmagas	Luft

## PLASMASCHNEIDEN

### Wirbelgas für mehr Leistung

Mit dem Brenner Flash101 kommt die bewährte Wirbelgastechnologie nun auch beim Luft-Plasmaschneiden mit dem Inverter CutFire 100i zum Einsatz. Mit nur einem Gas schneidet der CutFire 100i zuverlässig bis 20 mm Materialstärke und kann ebenfalls zum Fasenschneiden, Markieren und Einstechen verwendet werden.

### Swirl gas for more performance

With the torch Flash101 for the inverter CutFire 100i, the well-proven swirl gas technology is now also used for plasma cutting with air. With only one gas the CutFire 100i cuts material thicknesses of up to 20 mm reliably and can also be used for bevel cutting, marking and piercing.

### Auszug Schneidgeschwindigkeit Baustahl