



Unipow Welding Beijing Co., Ltd.

Enjoy Welding, enjoy **Combo™ power**



5 functions in one, a highlight spot in 2011!

Dual Voltage
Spool Gun

Pulse

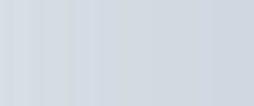
Synergic
Digital

High Frequency

High Frequency



Dual-Core Welder, The Perfect
Mate Of Welding Automation And Robot!
双核数字焊机，自动焊最佳伴侣！



Add: 1501/1502 Jinyanlong Building, Xisanqi Changping District Beijing 100096 P.R.China
Factory Add: E Sector Shahe Industrial Park, Changping District, Beijing 102206, P.R.China

Tel: +86-10-62717886/51097031/51097032

Fax: +86-10-51097033

E-Mail: info@unipow.cn

Http: //www.unipow.cn

2011 | **Unipow®** DUAL-CORE WELDER™

DUAL-CORE WELDER®



自动化焊接伴侣
Robot&Automation Welding Mate

双核时代
Dual Core Era

2011 all functions in One!

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Welding Training Center



Welding Workshop



High-end Welding work



Servicing with Welding Robot



应用领域 Application:

机器人和自动焊配套，数据端口接受发送数字的焊接控制信号与其他设备的交流控制更为准确通畅。
Serve with welding automation system and welding robot, digital format welding signal input and output ensure the fluent communication between other equipments and machine-self.

特种需求客户，对焊接参数要求准确，工艺精度高的高端客户群体。
High end welding, the welding fields which require accurate welding parameter and precisely welding proceed.

焊接培训中心，一台焊机无需更换，能够满足学员对不同焊接工艺学习的需要。
Welding School, one machine is enough for each trainee who will be able to practice various welding progress.

维修服务中心，一台焊机满足所有通用焊接工艺的需求，方便快捷性能稳定。
Welding workshop, the multi-functions is much convenient the workshop and field work.

机器特性 Machine features

双核控制 The dual-core control



采用 DSP+ARM 的双 CPU 控制，DSP 负责焊接过程控制，ARM 负责人机界面操作和机器人接口控制。焊接过程的控制占用了 DSP100% 的使用率，从而保证了更好的焊接性能。ARM 则可以提供更为丰富的显示信息、操作功能和机器人接口功能。

The dual-core control: DSP + ARM double CPU control channel, DSP is responsible for welding progress control while ARM is responsible for man-machine interface and robot-machine interface operation. During the welding process DSP is 100% utilization rate to ensure a better welding performance. Meanwhile ARM can provide more information for display, and more operating features, also provide more the robot connecting features.

超大液晶屏幕 Large LCD screen



采用 240*128 大尺寸点阵液晶显示器。主界面在显示焊机多种信息的同时，直接显示当前焊接功能的焊接参数，便于查看和修改。控制菜单则提供了更为方便的多种管理功能。

The large-size 240 * 128 pixels LCD display. The screen desktop displays various welding information meanwhile directly shows the current functions and welding parameters, which easy to be reviewed and modified. The control menu provides various convenient management functions

全数字控制 Digital Control



采用 DSP 芯片直接输出控制脉宽，从而用软件方法即可实现恒流、恒压以及特殊的输出特性，满足不同焊接功能的要求，实现一机多能。而且由于减少了传统的控制电路，大大提高了可靠性。

Digital Control: The DSP directly output a regulated pulse width, with the software control it can realized constant current, constant voltage and the special features output of to meet different welding requirements (multi-functional machine). The reliabilities of the welding machines are greatly improved as the traditional control circuit had been reduced.

多功能 Multi



气保焊，脉冲气保焊，双脉冲气保焊，氩弧焊，脉冲氩弧焊，手工焊
Mig, Pulse-Mig, Double-Pulse-Mig, Tig Spot-Tig, Pulse-Tig, MMA



系统状态 System Status
系统设置 System configuration
存储参数 Save Parameter
调入参数 Load Parameter
功能选择 Process Selection
设置参数 Set Parameter
软件信息 About Software

风扇状态 Fan Mode
面板锁定 Panel Lock
设备地址 Address
语言选择 Language
按键声音 Key Beep
时间日期设置 Date/Time Set
恢复出厂参数 Factory Default
永久授权 Permanent Authorization

双脉冲气保焊 Double Pulse GMAW
脉冲气保焊 Pulse GMAW
气保焊 GMAW
脉冲氩弧 Pulse GTAW
氩弧焊 GTAW
手工焊 SMAW

UP315/400/500 菜单结构示意图 UP315/400/500 Menu Structure Diagram

SMAW 手工焊参数调整菜单：

电流 Welding Amps
电弧推力 Arc Force
电流缓升 Slope Up
电流缓降 Slope Down
推力起点 Arc Force Point
断弧调节 Arc Length
收弧电流 Crater Amps
收弧时间 Start Amps Period
把线长度 Cable length
低空载电压 VRD

Pulse GTAW 脉冲氩弧参数调整菜单：

峰值电流 Peak Amps
基值电流 Base Amps
脉冲频率 Frequency
占空比 Duty Factor
维弧电流 Start Amps
收弧电流 Crater Amps
气体预流 Pre-Flow
气体滞后 Post-Flow
操作方式 2T/4T
引弧方式 HF/Lift
点焊模式 Spot Mode
点焊时间 Spot Time

GMAW 气保焊参数调整菜单：

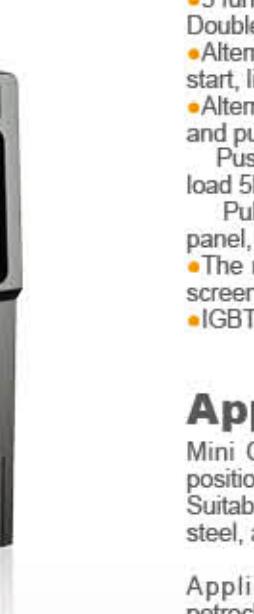
电流 Welding Amps
电压 Welding Volts
电感 Inductance
丝径 Wire Diameter
丝径 Solid/Flux-core
材料和气体 Material & Gas
操作方式 2T/4T
二次电流 Crater Amps
二次电压 Crater Volts
一元化 Synergic
电流修正 Amps Calibration
回烧修正 Burn Back Calibration
气体预流 Pre-Flow
气体滞后 Post-Flow

Pulse GMAW 脉冲气保焊参数调整菜单：

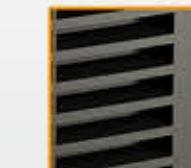
电流 Welding Amps
电压 Welding Volts
双脉冲电流 Double Pulse Amps
双脉冲电压 Double Pulse Volts
双脉冲频率 Double Pulse Frequency
双脉冲占空比 Double Pulse Duty Factor
电感 Inductance
丝径 Wire Diameter
材料和气体 Material & Gas
操作方式 2T/4T
二次电流 Crater Amps
二次电压 Crater Volts
一元化 Synergic
起弧电流 Hot Start Amps
起弧电压 Hot Start Volts
起弧时间 Hot Start Time
电流修正 Amps Calibration
回烧修正 Burn Back Calibration
气体预流 Pre-Flow
气体滞后 Post-Flow

Unipow Mini Combo™ 200

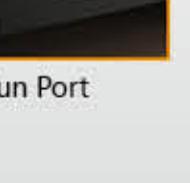
Digital Multi-process Welder



Digital Menu Configuration



MIG/MAG Gun Port



Synergic Amp and voltage

- Dual voltage (110v and 220v) automatic recognise and self-switch over.
- 5 functions in 1: MMA, TIG, Pulse TIG, MIG, Pulse MIG.
- Alternative arc starting methods for TIG welding, scratch start, lift arc and high frequency.
- Alternative wire feeding methods for MIG welding: push and pull.
- Push, build in wire feeding components and be able to load 5kg welding wire.
- Pull, independent spooling gun socket in the front of panel, easily to connect with welding spooling gun.
- The machine configured by menu within LCD (128*64) screen.
- IGBT inverter power source and duty cycle up to 60%.

Application:

Mini Combo arc welding machine is suitable for all positions welding.
Suitable for various plates made of stainless steel, carbon steel, alloyed steel, copper, titanium, etc.

Applications in pipe installation, mould mend, petrochemical, architecture decoration, car repair, bicycle, handicraft and common manufacture.

MAG—Metal Active Gas Welding

MIG—Metal Insert Gas Welding

Specifications

Item	Model	Combo200	UP300	UP400	UP500
Slope Down (s)		0.1-10			
Rated Input Voltage(V)	2-Phase, AC, 220/110V , 50/60Hz	3-Phase, AC, 380V , 50/60Hz			
Input Voltage Range(V)	93 ~ 255V	320 ~ 420V			
Max Input Current(A)	18.2/36.4	18.1	27.1	37.6	
Effective Input Current(A)	12.9/25.8	14	21	29.2	
Rated Input Capacity(KVA) Duty Cycle(60%)	6.59	11.3	17	23.5	
Rated Input Capacity(KVA) Duty Cycle(100%)	4.27	8.0	11.8	16.2	
Rated Output Capacity(KVA)	5.6	9.6	14.4	20	
No-load Output Voltage(V)	50	67.5V			
Duty Cycle	60%	60%			
Power Factor (COSφ)	≥ 0.85	≥ 0.85			
Efficiency (η)	≥ 85%	≥ 85%			
Insulation Class	F	F			
Dimension(mm)	520×240×385 (424)	630×297×591			
N.W.(KGS.)	???	44	47	51	
Working Temperature	-10°C ~ +40°C				
Working Humidity	≤ 50% when the temperature is not higher than 40°C, ≤ 90% when the temperature is not higher than 20°C				
Storage Temperature	-25°C ~ +55°C				
Crater Amps(A)	15-200	15-300	15-400	15-500	
Crater Volts(V)	10-42				
Amps Calibration	-16 ~ 16				
Burn Back Calibration	-80 ~ 200				
Gas Pre-flow(s)	0.1-12				
Gas Post-flow(s)	0.1-50				
Pulse MIG(GMAW-P)					
Welding Amps(A)	15-200	15-300	15-400	15-500	
Welding Volts(V)	10-48				
Inductance	1-10				
Crater Amps(A)	15-200	15-300	15-400	15-500	
Crater Volts(V)	10-42				
Hot Start Amps(%)	100-150				
Hot Start Volts(%)	100-150				
Hot Start Time(s)	0.1 ~ 5				
Amps Calibration	-16 ~ 16				
Burn Back Calibration	-80 ~ 200				
Gas Pre-flow(s)	0.1-12				
Gas Post-flow(s)	0.1-50				
Double Pulse MIG(GMAW-DP)					
Welding Amps(A)	15-200	15-300	15-400	15-500	
Welding Volts(V)	10-48				
Double Pulse Amps(A)	15-200	15-300	15-400	15-500	
Double Pulse Volts(V)	10-48				
Double Pulse Frequency(Hz)	0.1-20				
Double Pulse Duty Factor (%)	1-99				
Inductance	1-10				
Crater Amps(A)	15-200	15-300	15-400	15-500	
Crater Volts(V)	10-42				
Hot Start Amps(%)	100-150				
Hot Start Volts(%)	100-150				
Hot Start Time(s)	0.1 ~ 5				
Amps Calibration	-16 ~ 16				
Burn Back Calibration	-80 ~ 200				
Gas Pre-flow(s)	0.1-12				
Gas Post-flow(s)	0.1-50				
Pulse TIG(GTAW-P)					
Peak Amps(A)	2-200	2-300	2-400	2-500	
Base Amps(A)	2-200	2-300	2-400	2-500	
Pulse Frequency (Hz)	0.1-500				
Duty Factor (%)	1-99				
Slope Up(s)	0.1-10				

Model	Combo200	UP300	UP400	UP500
Slope Down (s)	0.1-10			
Start Amps (A)	2-40			
Crater Amps (A)	2-200	2-300	2-400	2-500
Gas Pre-flow (s)	0.1-12			
Gas Post-flow (s)	0.1-50			
MIG/MAG(GMAW)				
Welding Amps(A)	15-200	15-300	15-400	15-500
Welding Volts(V)	10-48			
Inductance	1-10			
Crater Amps(A)	15-200	15-300	15-400	15-500
Crater Volts(V)	10-42			
Hot Start Amps(%)	100-150			
Hot Start Volts(%)	100-150			
Hot Start Time(s)	0.1 ~ 5			
Amps Calibration	-16 ~ 16			
Burn Back Calibration	-80 ~ 200			
Gas Pre-flow(s)	0.1-12			
Gas Post-flow(s)	0.1-50			