

# METRO

## HIGH PERFORMANCE DC MANUAL WELDER OF SS SERIES INVERTED (IGBT) DC MANUAL WELDING MACHINE



### Main Properties

- With the function of DC manual welding, and arc trust, current of arc striking adjustable function
- Be applied to welding for acid and alkaline welding rod
- With carbon-arc air gouging function
- High output ability, output cable can be extended to 100m, and also stable working

Type	SS-400	SS-630	ZX7-400	ZX7-500	ZX7-630
Input power voltage	3P 380V±10% 50Hz / 60Hz	3P 380V±10% 50Hz / 60Hz	3P 380V±10% 50Hz / 60Hz	3P 380V±10% 50Hz / 60Hz	3P 380V±10% 50Hz / 60Hz
Rated input capacity	27KVA	45KVA	17.8KVA	24.38KVA	34KVA
Rated input current			24A	34A	46A
Output unload voltage	64 V	77V	64V	67V	80V
Output welding voltage	22.4V~36V	24V~44V	22V~36V	22V~39V	24V~44V
Welding current	60A~400A	100A~630A	20A~400A	20A~500A	50A~630A
External Characteristics	Steep dipping	Steep dipping	Steep dipping	Steep dipping	Steep dipping
Rated load duration	60%	60%	60%	60%	60%
Full load efficiency			89%	89%	89%
Efficacy factor			0.95	0.95	0.95
Thickness of work-piece	1~15mm		1~15mm	1~20mm	1~20mm
Cooling method	Wind	Wind	Wind	Wind	Wind
Weight	175kg	260kg	43kg	47kg	55kg
Overall dimension (mm)	705x380x730	770x470x870	650x345x600	650x345x600	680x345x600

# METRO

## INVERTED (IGBT) CO2 GAS SHIELDED WELDING MACHINE



### Main Properties

- Adopt advanced wave control, with good dynamic response and excellent welding formation;
- Adopt IGBT components in high quality, high frequency for switch, obvious energy saving effect;
- Soft switch inverter technique, excelled performance of system anti-jamming, longtime stable work is available;
- Adopt technique of power factor rectifying, longtime welding is available;
- With the function of current, voltage digital preset, convenient operation.

Type	NBC-280	NBC-350	NBC-500	NBC-630
Rated input voltage	3~AC380V	3~AC380V	3~AC380V	3~AC380V
Rated input capacity	14KVA	17.8KVA	24.38KVA	34KVA
Output unload voltage	50V	70V	70V	70V
Output current adjusting range	40A-280A	50A-350A	60A-500A	60A-630A
Output voltage adjusting range	16V-28V	16V-31.5V	17V-39V	17V-44V
Rated duration rate (period 10 minutes)	60%	60%	60%	60%
Diameter of using welding wire	Ø0.8-Ø1.2	Ø0.8-Ø1.2	Ø1.0- Ø1.6	Ø1.0- Ø2.0
Full load efficient factor	≥0.87	≥0.87	≥0.87	≥0.87
Full load efficiency	≥89%	≥89%	≥89%	≥89%
Weight	39kg	43kg	47kg	55kg
Overall dimension (mm)	650x345x600	650x345x600	650x345x600	680x345x600

# METRO

## TIG INVERTER WELDER



TIG-160S



TIG-180S



TIG-200S



TIG-315S

- It adopts MOSFET invert technology, high frequency arc start design.
- It can balance automatic when voltage is waving, with high resist to electrical wave ( $V\pm 15\%$ ).
- It has high efficiency, small unload loss, save over 40% than the traditional welder.
- It is small and light, easily work in high altitude .
- It is easily arc, small flash, low noise stable welding arc, wonderful welding shape.
- With inner stalling protective circuit of over-heat, over-current, over-voltage and under-voltage, working safe is reliable.

## Specification

Parameter	TIG-160S	TIG-180S	TIG-200S	TIG-315S
Rated input voltage (V)	1 Phase AC220 $\pm 15\%$			3 Phase AC380V $\pm 15\%$
Rated Frequency (Hz)	50/60	50/60	50/60	50/60
Rated input current (A)	15	18	20	13.5
Rated input capacity (KVA)	3.3	4	4.6	9
No-load voltage (V)	42	42	42	40
Output current (A)	10~160	10~180	10~200	10~315
Rated working voltage (V)	16.4	17.2	18	22
Drive adjustment (A)	-	-	-	0~100
Duty cycle (%)	60	60	60	60
Efficiency (%)	85	85	85	85
Power factor	0.93	0.93	0.93	0.93
Weight (kg)	10	10	10	18
Overall dimension (mm)	370 x 160 x 200	370 x 160 x 200	370 x 160 x 200	470 x 205 x 300

## Guide of Welding Different Metals

Material of Work Piece	Thickness (mm)	Welding Type	Adjustment Current (A)	Suitable Model
Carbon Steel, Stainless Steel, Alloy Steel	0.3-3.0	WS DC TIG	5~160	TIG-160S
	0.3-5.0	WS DC TIG	5~180	TIG-180S
	0.3-5.0	WS DC TIG	5~200	TIG-200S
	0.5-4.0	WS DC TIG	5~315	TIG-315S

# METRO

## PULSE AC/DC TIG INVERTER WELDER



TIG-200AC/DC



TIG-250AC/DC



TIG-315AC/DC

- Adopt advanced inversion technology, with feature of small volume, light weight, low noise, energy-saving.
- High-speed dynamic response, little splash, good arc concentricity and outline.
- External pedal controller, adjustable current
- Obtaining different external power supply through thrust control
- DC function for welding stainless steel, alloy steel, carbon steel, copper and other non-ferrous metal.
- AC square wave function for welding aluminum and aluminum alloy products;

### Specification

Parameter	TIG-200AC/DC	TIG-250AC/DC	TIG-315AC/DC
Rated input voltage (V)	1 Phase AC220 $\pm$ 15%	3 Phase AC380V $\pm$ 15%	
Rated Frequency (Hz)	50/60	50/60	50/60
Rated input current (A)	20	9.6	14
No-load voltage (V)	56	45	45
Output current (A)	10~200	10~250	10~315
Drive adjustment (A)	0~70	0~100	0~100
Duty cycle (%)	60	60	60
Efficiency (%)	85	85	85
Power factor	0.93	0.93	0.93
Weight (kg)	25	30	32
Overall dimension (mm)	550 x 326 x 362	550 x 326 x 362	550 x 326 x 362

### Guide of Welding Different Metals

Material of Work Piece	Thickness (mm)	Tungsten needle (mm)	Adjustment Current (A)	Suitable Model
Carbon Steel, Stainless Steel, Alloy Steel	0.3-0.8	1.2-2.4	20-200	TIG-200AC/DC
	0.3-10.0	1.6-3.2	20-250	TIG-250AC/DC
	0.3-12.0	1.6-4.0	20-315	TIG-315AC/DC
	0.8-4.0	1.2-2.4	5-200	TIG-200AC/DC
	0.3-6.0	1.6-3.2	5-250	TIG-250AC/DC
	0.3-8.0	1.6-4.0	5-315	TIG-315AC/DC

# METRO

## PLASMA



CUT-40



CUT-60



CUT-100



CUT-160

- It uses advanced invert technology to accurate feedback control, stable output current.
- It can adjust current continuously when cutting, which can meet the demand of various working material and cutting speed. And the cutting surface is smooth, distortion little, cutting speed quick.
- It is small and light, easy move. With high load duration factor, it can save energy and electricity.
- With inner stalling protective circuit of over-heat, over-current, over-voltage and under-voltage and lack compressed air pressure, the protective work reliability is strong.
- It can cut various of metal, such as carbon steel, stainless steel, brass and aluminum.

## Specification

Parameter	CUT-40	CUT-60	CUT-100	CUT-160
Rated input voltage (V)	1 Phase AC220 $\pm$ 15%	3 Phase AC380V $\pm$ 15%		
Rated Frequency (Hz)	50/60	50/60	50/60	50/60
Rated input capacity (KVA)	4.8	7.9	15	30
No-load voltage (V)	230	260	260	275
Output current (A)	20~40	20~60	30~100	40~160
Rated working voltage (V)	96	104	120	144
Duty cycle (%)	60	60	80	80
Efficiency (%)	85	85	85	85
Power factor	0.93	0.93	0.93	0.93
Weight (kg)	8	18	45	55
Overall dimension (mm)	440 x 170 x 290	475 x 205 x 300	665 x 325 x 585	665 x 325 x 585

## Guide of Welding Different Metals

Material of Work Piece	Thickness (mm)	Arc Start Method	Adjustment Current (A)	Suitable Model
Carbon Steel, Stainless Steel, Alloy Steel	0.3-16.0	Touch	20~40	CUT-40
	1.0~25.0	Touch	20~60	CUT-60
	1.0~30.0	Un-Touch	20~100	CUT-100
	1.0~40.0	Un-Touch	20~160	CUT-160
Aluminum, Copper, Copper Alloy, Aluminum Alloy	Perfect cutting on the half thickness of carbon steel, stainless steel and alloy steel, when choosing available model.			



# METRO

## MMA INVERSION DC ARC WELDER (MOS)



ARC-200



ARC-250



ARC-315



ARC-400



ARC-500

- It adopts MOSFET invert technology, high frequency arc start design.
- It can balance automatic when voltage is waving, with high resist to electrical wave ( $V \pm 15\%$ ).
- It has high efficiency, small unload loss, save over 40% that the traditional welder.
- It is small and light, easily work in high altitude.
- It is easily arc, small flash, low noise, stable welding arc, wonderful welding shape.
- With inner stalling protective circuit of over-heat, over-current, over-voltage and under-voltage, working safe is reliable.

### Specification

Parameter	ARC-200	ARC-250	ARC-315	ARC-400	ARC-500
Rated input voltage (V)	1 Phase AC220V $\pm 15\%$	3 Phase AC380V $\pm 15\%$			
Rated input current (A)	32	15	20	28	32
Rated input capacity (KVA)	7.1	10	13	18	26
No-load voltage (V)	60	70	70	70	70
Output current (A)	20~200	20~250	20~315	20~400	20~500
Rated working voltage (V)	28	30	32.6	36	40
Drive adjustment (A)	0~70	0~70	0~70	0~70	0~70
Duty cycle (%)	60	60	60	60	60
Efficiency (%)	85	85	85	85	85
Power factor	0.93	0.93	0.93	0.93	0.93
Weight (kg)	9	17	24	30	32
Overall dimension (mm)	370x160x200	475x205x300	550x326x362	550x326x362	550x326x362

### Guide of Welding Different Metals

Material of Work Piece	Thickness (mm)	Welding Rod Carbon Rod (mm)	Adjustment Current (A)	Suitable Model
Carbon Steel, Stainless Steel, Alloy Steel	1.5-5.0	2.5/3.2	20~200	ARC-200
	1.5-10.0	3.2/4.0	20~250	ARC-250
	1.5-15.0	3.2/4.0/5.0	20~315	ARC-315
	2-20	3.2/4.0/5.0	20~400	ARC-400
	2-30	3.2/4.0/5.0	20~500	ARC-500

# METRO

## MMA INVERSION DC ARC WELDER (IGBT)



ARC-315



ARC-400



ARC-500



ARC-630

- It uses advanced invert technology and powerful switch design (IGBT).
- It has the perfect functions in over-voltage, over current and over-loaded.
- It has high efficiency, small unload loss, save over 1/3 that the traditional welder.
- It can balance automatic when voltage is waving, with high resist to electrical wave ( $V \pm 15\%$ ), moreover welding perfect with 100m output cable.
- It is small and light, easily work in high altitude.
- It is easily arc, small flash, low noise, which can improve working surrounding.
- That above 500A can dig by compressed air and arc of carbon stick. It is used for welding various of stainless steel, carbon steel, alloy steel, brass and titanium and so on.
- When switching to stick welding (MMA), down war welding function is available on cellulose welding electrode.

## Specification

Parameter	ARC-315	ARC-400	ARC-500	ARC-630
Rated input voltage (V)	3 Phase AC380V $\pm 15\%$			
Rated input current (A)	21	28	38	52
Rated input capacity (KVA)	13.8	18.4	25	35
No-load voltage (V)	79	79	79	79
Output current (A)	20-315	20-400	20-500	20-630
Rated working voltage (V)	32.6	36	40	44
Drive adjustment (A)	0-100	0-100	0-100	0-100
Duty cycle (%)	60	60	60	60
Efficiency (%)	85	85	85	85
Power factor	0.93	0.93	0.93	0.93
Weight (kg)	42	43	50	58
Overall dimension (mm)	665x325x585	665x325x585	665x325x585	700x350x645

## Guide of Welding Different Metals

Material of Work Piece	Thickness (mm)	Welding Rod Carbon Rod (mm)	Adjustment Current (A)	Suitable Model
Carbon Steel, Stainless Steel, Alloy Steel	3.0-16.0	4.0/5.0	40-315	ARC-315
	3.0-16.0	4.0/5.0	40-400	ARC-400
	$\geq 16.0$	5.0/6.0	40-500	ARC-500
	4.0-15.0	4.0/6.0/8.0	150-500	ARC-500
	$\geq 15.0$	8.0/10.0	350-630	ARC-630 (Air Gouging)

# METRO

## INVERSION DC ARC WELDER (MOSFET)



- It adopts MOSFET invert technology, high frequency arc start design.
- It can balance automatic when voltage is waving, with high resist to electrical wave ( $V \pm 15\%$ ).
- It has high efficiency, small unload loss, save over 40% than the traditional welder.
- It is small and light, easily work in high altitude .
- It is easily arc, small flash, low noise, stable welding arc, wonderful welding shape.
- With inner stalling protective circuit of over-heat, over-current, over-voltage and under-voltage, working safe is reliable.

### Specification

Parameter	ARC-100	ARC-140	ARC-160	ARC-180	ARC-200	ARC-250
Rated input voltage (V)	1 Phase AC220 $\pm$ 15%					
Rated input current (A)	20	24	26	28	32	15
Rated input capacity (KVA)	4.4	5.3	5.7	6.2	7.1	10
No-load voltage (V)	56	56	56	56	56	70
Output current (A)	20-100	20-140	20-160	20-180	20-200	20-250
Rated working voltage (V)	24	25.6	26.4	27.2	28	30
Drive adjustment (A)	-	-	-	-	-	0-100
Duty cycle (%)	60	60	60	60	60	60
Efficiency (%)	85	85	85	85	85	85
Power factor	0.93	0.93	0.93	0.93	0.93	0.93
Weight (kg)	7	7.5	8.5	8.5	8.5	17
Overall dimension (mm)	350x160x290	350x160x290	410x160x290	410x160x290	410x160x290	500x260x290

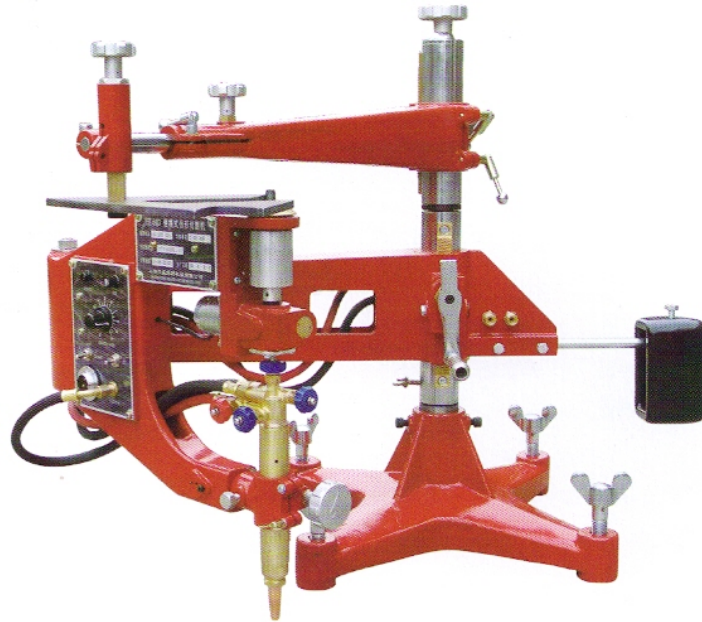
### Guide of Welding Different Metals

Material of Work Piece	Thickness (mm)	Dia. Welding Wire	Adjustment Current (A)	Suitable Model
Carbon Steel, Stainless Steel, Alloy Steel	1.5-3.0	2.5/3.2	20-100	ARC-100
	1.5-3.0	3.2/4.0	20-160	ARC-160
	1.5-4.0	3.2/4.0/5.0	20-200	ARC-200
	1.5-4.0	3.2/4.0/5.0	20-250	ARC-250



# METRO

## PROFILING GAS CUTTER



- This machine is the most advance magnetic tracing type gas cutter and ensures operation ease. As cutting tip is at the center of magnet roller and cutting in close contact with the tracing template, high-precision and eye-pleasing cut faces are ensured.
- It features light and is made of stainless steel, which greatly reduces the weight. As ideal portable machine.
- It is designed for cutting a heavy workpieces, and the rail length can be adjusted according to workpiece dimension. This design accordingly expands the cutting capacity and the cutting efficiency.
- Easy to replace the cutting tip.
- The tip can be replaced and cleaned and the flame adjusted easily by merely raising the tracer head.

Model No.	Supply Voltage V/HZ	LxWxH MM	Cutting Thickness MM	Cutting Speed MM/MIN	DIA. Of Circle Cutting MM	MAX. Size of Cutting Square MM	DIA. Of Standard Magnetic Wheel MM	Weight KG
HK-54D	AC220/50	1200*420*700	3-100	100-1000	Ø30- Ø700	30-600	10	45