

# TIG/MMA Arc Welding Machine

**WS-series** is a DC TIG/MMA welding machine with inverter technology. The external characteristic is the constant current characteristic, the current does not change with the variation of the arc length and the current is very stable. This welding process is truly perfect for people in many industries.

## Main Functions

- TIG/MMA switch function
- Adjustable: arc force, surge current, slope down time and welding current, etc
- Welding current can be preset precisely and displayed digitally
- Wide range of welding current, and arc-stability in low current
- Remote control function
- Many kinds of program-control operation modes at TIG welding
- Non-contact high frequency arc-striking at TIG welding
- Protective functions: overheat, over-current, under-voltage and power phase absence, etc



PNE10-250



PNE13-400

## Technical Specifications

Model	WS-250 ( PNE10-250 )	WS-400 ( PNE13-400 )
Rated input voltage	3-380V $\pm$ (10-20) %	50-60Hz
Rated input power ( KW )	8.8	17
No-load voltage ( V )	65 $\pm$ 5	75 $\pm$ 5
Current adjusting range ( A )	5 - 250	15 - 400
Slope up time ( s )	10	0 - 15
Slope down time ( s )	0 - 12	0 - 15
Pre-flow time ( s )	0.4	0.5
Post-flow time ( s )	5	5
Surge time range ( MMA )	-	0.05s, 0.2s, 0.4s adjustable
Duty cycle	60%	60%
Efficiency ( $\eta$ )	90%	90%
Power factor ( $\cos \phi$ )	0.93	0.93
Insulation grade	F	F
Case protection grade	IP21S	IP21S
Dimensions ( mm )	460 x 210 x 438	700 x 340 x 610
Net weight ( Kg )	18	44
Description	Wireless remote control is optional.	Wireless/Wire remote control is optional. Be suitable for cellulose welding.

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## Main Functions

- Portable, high efficiency, energy saving and noiseless
- High frequency arc-striking, strong welding penetrability
- Especially for thin plate
- Excellent weld surface
- Weldable thickness: 0.3-10 mm



PNE60-180

## Technical Specifications

Model	WS-180 ( PNE60-180 )
Rated input voltage	220V $\pm$ 15% 50-60Hz
Rated input current ( A )	24
No-load voltage ( V )	60
No-load consumption ( W )	40
Current adjusting range ( A )	10 - 180
Rated output voltage ( V )	17
Duty cycle	60%
Efficiency ( $\eta$ )	90%
Power factor ( $\cos \phi$ )	0.93
Insulation grade	B
Case protection grade	IP23S
Dimensions ( mm )	408 x 181 x 323
Net weight ( Kg )	7.5
Description	MOSFET technology, invert frequency is 100Hz. TIG/MMA function. <i>Plastic case.</i>

# TIG/MMA Arc Welding Machine

**PNE20/61/65-series** is a whole digital DC TIG/MMA arc welding machine based on the technologies of DSP, fuzzy control, wave control and adaptive control. It has wide application in non-consumable electrode argon arc welding for all sorts of metals except Al, Mg and their alloys, and manual arc welding for a variety of acid and basic electrodes.

## Main Functions

- IGBT inverter
- High reliability and excellent welding performance
- Wide range of supply voltage
- Multiply adjustable parameters and argon arc operation modes
- Visual and easy to operate
- RS-485 communication socket
- Energy saving and small volume



PNE61-315/400

## Technical Specifications

Model	WS-315 ( PNE61-315 )	WS-400 ( PNE61-400 )
Rated input voltage	3-226-456V 50-60Hz	
Rated input power ( KW )	12.1	17
No-load voltage ( V )	50 - 70	50 - 70
Current adjusting range ( A )	5 - 325	5 - 410
Slope up time ( s )	0.1 - 99.9	0.1 - 99.9
Slope down time ( s )	0.1 - 99.9	0.1 - 99.9
Pre-flow time ( s )	0 - 13	0 - 13
Post-flow time ( s )	0.1 - 50	0.1 - 50
Surge time range ( MMA )	0.01 - 1s	0.01 - 1s
Duty cycle	60%	60%
Efficiency ( $\eta$ )	90%	90%
Power factor ( $\cos \Phi$ )	0.93	0.93
Insulation grade	F	F
Case protection grade	IP23S	IP23S
Dimensions ( mm )	560 x 300 x 530	560 x 300 x 530
Net weight ( Kg )	32	34
Description	RS-485 communication socket.	RS-485 communication socket.

# TIG/MMA Pulse Welding Machine

**WSM-series** is TIG/MMA pulse welding power source with IGBT inverter technology. They are widely used in various kinds of metal except Al, Mg and their alloy at TIG welding and are suitable for all kinds of acid and basic electrode at MMA welding.

## Main Functions

- Good consistency and stability
- High reliability owing to automatic detecting and effective preventing function
- Multiple adjustable parameters, accurate parameter adjusting, wide adjustable range
- Visual and easy to operate
- Reliable ventilation system



PNE10-160P

## Technical Specifications

Model	WSM-160 ( PNE10-160P )	WSM-200 ( PNE20-200P )
Rated input voltage	1-150-264V	50-60Hz
Rated input power ( KW )	4.77	4.77
No-load voltage ( V )	50 - 70	50 - 70
Current adjusting range ( A )	5 - 160 ( TIG,MMA )	5 - 200 ( TIG ) 5 - 160 ( MMA )
Pulse frequency range ( Hz )	0.5 - 15	0.5 - 15
Pulse ratio range ( TIG )	50%	50%
Slope up time ( s )	1	1
Slope down time ( s )	0 - 10	0 - 10
Duty cycle	35% ( TIG ); 60% ( MMA )	
Efficiency ( $\eta$ )	90%	90%
Power factor ( $\cos \phi$ )	0.93	0.93
Insulation grade	F	F
Case protection grade	IP21S	IP21S
Dimensions ( mm )	455 x 214 x 340	455 x 214 x 340
Net weight ( Kg )	11	11
Description	TIG/Pulse TIG/MMA function.	TIG/Pulse TIG?MMA function.

# AC/DC Pulse TIG/MMA Square Wave Welding Machine

**WSE-series** products are multi-function welding sources with IGBT inverter technology. They are widely used in various kinds of metal including AL, Mg and their alloy at TIG welding and are suitable for all kinds of acid electrode at MMA welding.

## Main Functions

- Multi-function: AC square wave TIG, DC pulse TIG, DC TIG, MMA and Spot TIG welding.
- Microprocessor control technology.
- Parameters in panel are set by coordinate-type touch key; and single-knob makes the operation simple and clear.
- There are many adjustable parameters under each of the five welding states.
- All parameters under the five welding states can be stored in Memory channel.
- Protective functions: overheat, over-current and under-voltage, etc.



WSE-250



WSE-315

## Technical Specifications

Model	WSE-250 ( PNE20-250ADP )	WSE-315 ( PNE20-315ADP )
Rated input voltage	3-380V $\pm$ (15-20)% 50-60Hz	
Rated input power ( KW )	8.8	12.1
No-load voltage ( V )	63 $\pm$ 6	67 $\pm$ 5
Current adjusting range ( A )	10 - 250	12 - 315
Pulse frequency range ( Hz )	0.5 - 200	0.5 - 200
Slope up time ( s )	0.1 - 10	0.1 - 10
Slope down time ( s )	0.1 - 10	0.1 - 10
Spot welding time ( s )	0.1 - 5	0.2 - 5
Pre-flow time ( s )	0.1 - 1.5	0.1 - 1.5
Post-flow time ( s )	1 - 15	1 - 15
Surge time range ( MMA )	0.01 - 0.5s	0.01 - 0.5s
AC frequency ( Hz )	5 - 100	20 - 100
AC balance	10% - 50%	10% - 50%
Duty cycle	60%	100%
Efficiency ( $\eta$ )	90%	90%
Power factor ( $\cos \Phi$ )	0.93	0.93
Insulation grade	F	F
Case protection grade	IP21S	IP21S
Dimensions ( mm )	700 x 340 x 530	700 x 360 x 780
Net weight ( Kg )	40	63