



MIG(GMAW)

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PROFESSIONAL IN WELDING

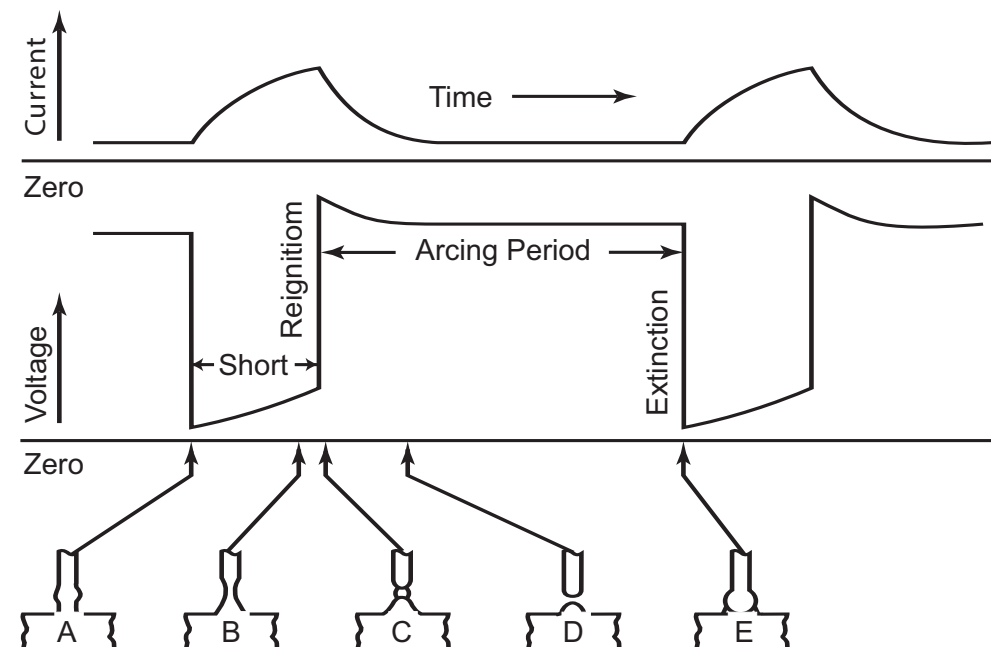
Advanced MIG/MAG

Advantages

- All-position capability, including flat, horizontal, vertical-up, vertical-down and overhead.
- Handles poor fit-up extremely well, and is capable of root pass work on pipe applications.
- Lower heat input reduces weldment distortion.
- Higher operator appeal and ease of use.
- Higher electrode efficiencies, 93% or more.



Oscillograms and Sketches of Short Circuiting Transfer



A

The solid or metal-cored electrode makes physical contact with the molten puddle. The arc voltage approaches zero, and the current level increases. The rate of rise to the peak current is affected by the amount of applied inductance.



B

This point demonstrates the effect of electromagnetic forces that are applied uniformly around the electrode. The application of this force necks or pinches the electrode. The voltage very slowly begins to climb through the period before detachment, and the current continues to climb to a peak value.



C

This is the point where the molten droplet is forced from the tip of the electrode. The current reaches its maximum peak at this point. Jet forces are applied to the molten puddle and their action prevents the molten puddle from rebounding and reattaching itself to the electrode.



D

This is the tail-out region of the short-circuit waveform, and it is during this downward excursion toward the background current when the molten droplet reforms.



E

The electrode at this point is, once again, making contact with the molten puddle, preparing for the transfer of another droplet. The frequency of this varies between 20 and 200 times per second. The frequency of the short-circuit events is influenced by the amount of inductance and the type of shielding gas. Additions of argon increase the frequency of short-circuits and it reduces the size of the molten droplet.



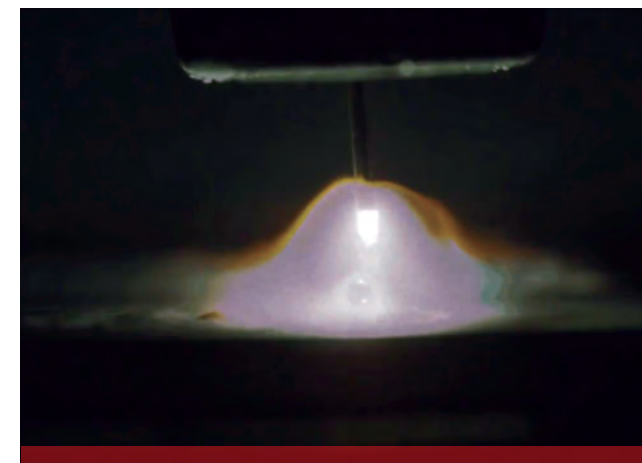
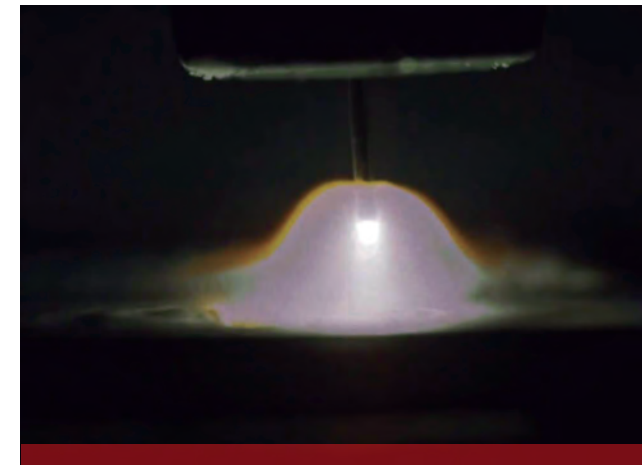
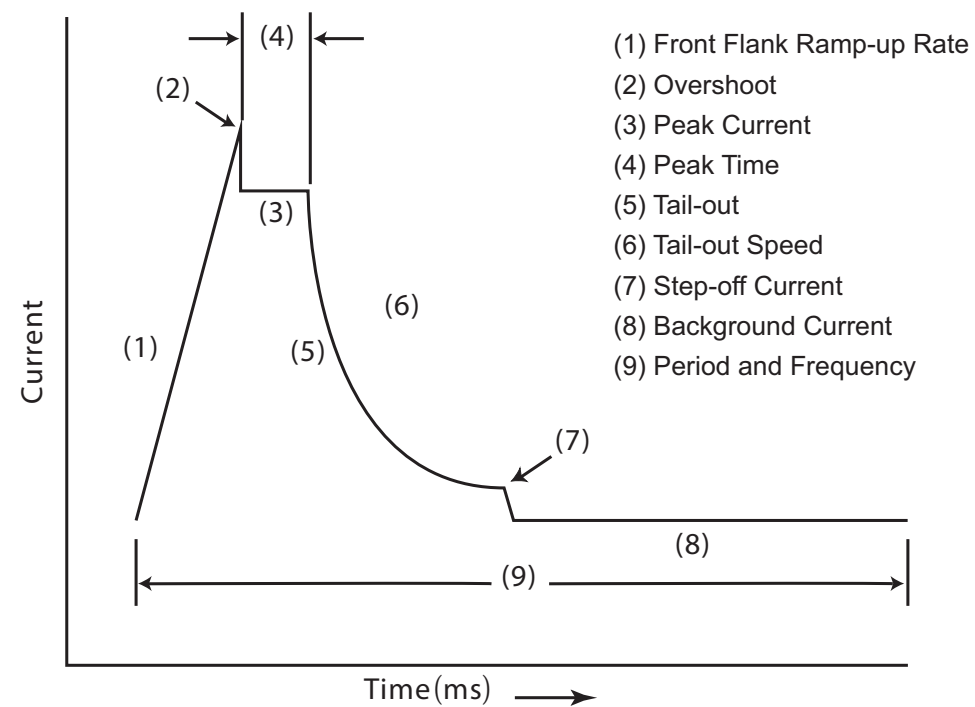
PMIG, Pulse MIG

Advantages

- Absent or very low levels of spatter.
- More resistant to lack of fusion defects than other modes of GMAW metal transfer.
- Excellent weld bead appearance.
- High operator appeal.
- Offers an engineered solution for the control of weld fume generation.
- Reduced levels of heat induced distortion.
- Ability to weld out-of-position.
- Lower hydrogen deposit.
- Reduces the tendency for arc blow.
- Handles poor fit-up.
- High-electrode efficiency of 98%.
- Lends itself to robotic and hard automation applications.



A Single Pulsed Event



The pulsed MIG process works by forming one droplet of molten metal at the end of the electrode per pulse. Then, just the right amount of current is added to push that one droplet across the arc and into the puddle. The transfer of these droplets occurs through the arc, one droplet per pulse.

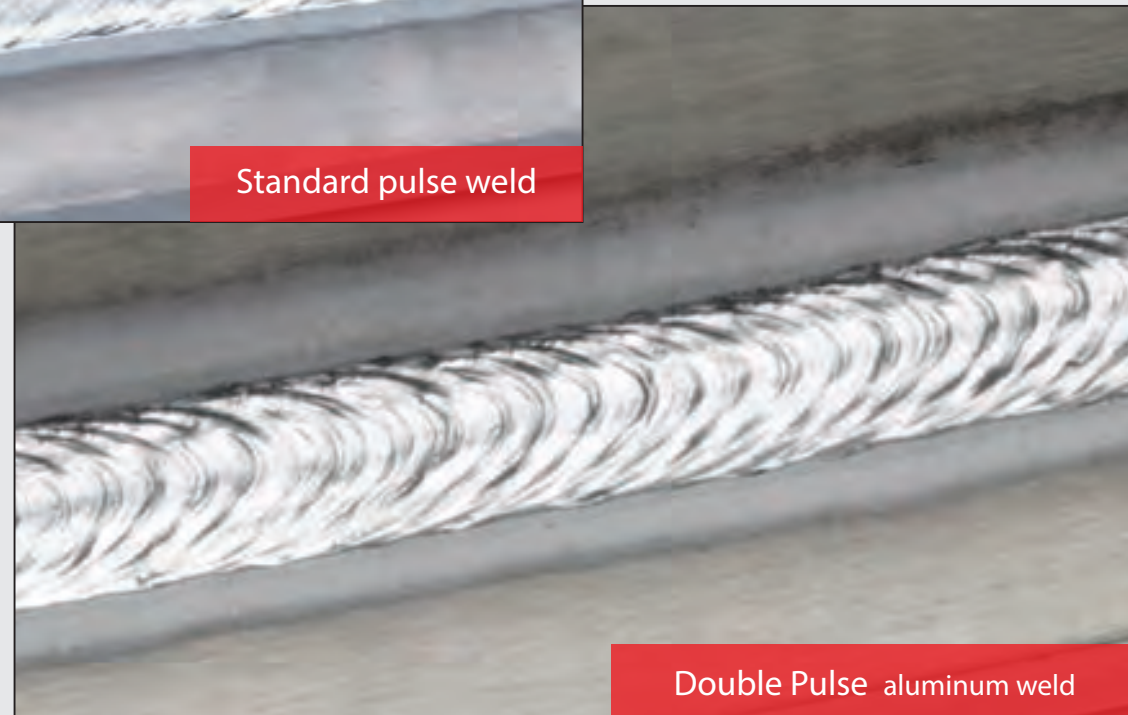
DPMIG, Double Pulse MIG

Advantages

- **MORE FORGIVING OPERATION**
Minimal distortion, even when gap conditions and wire placement vary.
- **LESS OPERATOR SKILL REQUIRED**
Outstanding control of arc characteristics, making it easier to produce excellent welds.
- **UNIFORM BEAD APPEARANCE**
Rippled bead appearance requires no weaving to produce a uniform bead.
- **EXCELLENT PENETRATION**
Controls the arc length and heat input together for excellent penetration profile.
- **OUTSTANDING ARC HEAT CONTROL**
Controls the arc heat, making it ideal for welding thinner materials.



Standard pulse weld

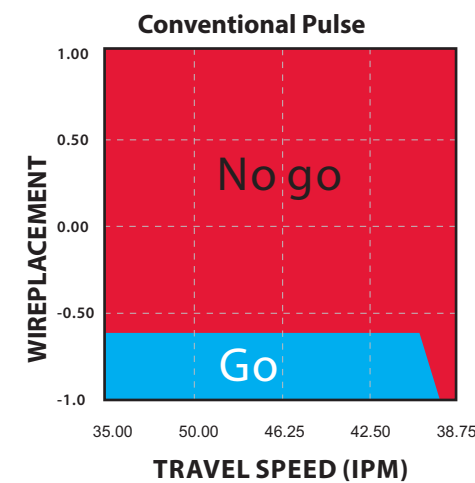


Double Pulse aluminum weld

Conditions for all weld samples:
Electrode - 1.2 mm diameter 4043 Aluminum
Shielding Gas - 100% argon
Material - 3mm thickness aluminum

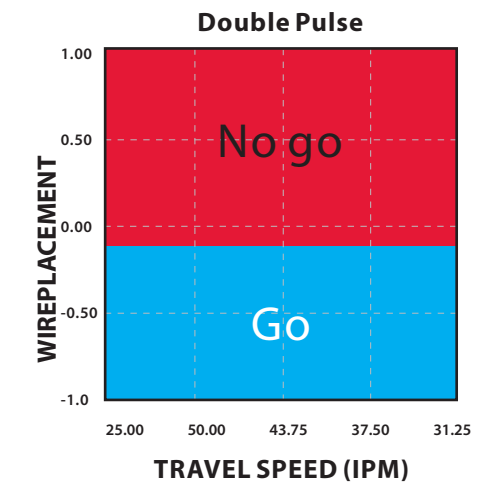
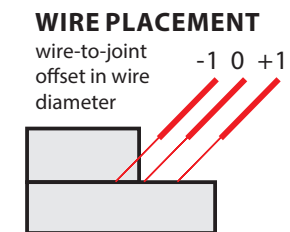
Comparing Double Pulse to Conventional Pulse

Wire placement influences weld shape and quality. In a series of design experiments over a range of travel speeds, the quality of Pulse-On-Pulse welds was less sensitive to variations in wire placement compared to welds made with conventional pulse.



The green area represents wire placement and travel speeds at which acceptable welds are made. The red area represents unacceptable welds.

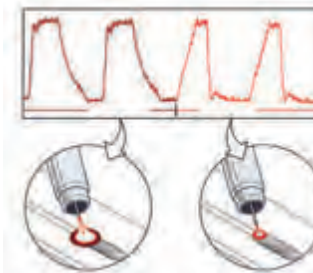
*torch angle > 130
convexity < 0.75 mm
lack of fill = < 2.5 mm*



Pulse-On-Pulse made good welds at faster travel speeds over a wider range of wire placement.

HOW Double Pulse works

Using Waveform Control Technology, the welding machine alternates between high and low energy pulses. This combination of high and low pulses produces the "rippled" bead appearance.



The high energy pulses provide a hotter arc (longer arc duration), which improves cleaning action at the base material. The low energy pulses allow the weld puddle to cool, which controls the heat input for good penetration.

ALUMIG 250P/300P/350CP/500CP

Synergic, Pulse MIG and Double Pulse MIG



Quick Specs



Processes:

MIG, Flux-Cored, Pulse MIG, Double Pulse MIG, MMA(Stick)

Applications:

Alumig-250P/300P:
Metal Fabrication, Maintenance and Repair
Auto Body, Light Industrial
Alumig-350CP/500CP:
Metal fabrication workshops
Shipyards and offshore industry
Chemical and process industry
Steel structure workshops

Input Power:

250P: 230V, 1-Phase/300P: 400V, 3-Phase
350CP: 400V, 3-Phase/500CP: 400V, 3-Phase

Amperage Range:

250P: 10-250A/300P: 10-300A
350CP: 10-350A/500CP: 10-500A

Rated Output at 40°C (104°F):

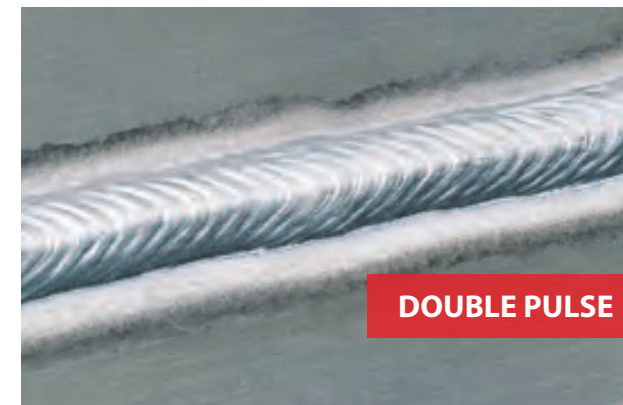
250P: 250A at 26.5V @60% Duty Cycle
300P: 300A at 29V @60% Duty Cycle
350CP: 350A at 31.5V @60% Duty Cycle
500CP: 500A at 39V @60% Duty Cycle

Weight: 250P/300P: 32KG / 350CP: 65KG / 500CP: 85KG

TOP Features:

- **Multi-Process capable** – Welds MIG, flux-cored, stick, pulsed MIG, and advanced process of Pulse-On-Pulse.
- **Pulse MIG** – Cost savings, better quality, improved productivity and easier operation.
- **Aluminum Pulse Process** – Welds 4XXX (AlSi wires) and 5XXX (AlMg wires) series aluminum for superior quality welding.
- **Double Pulse** – Delivers a stacked dime appearance when welding aluminum.
- **Dynamic control** – Set arc control to crisp or soft depending on your preference and application.
- **Synergic control** – Set weld procedures with one control, simple and easy to operate.
- **Synergic MIG** provides communication between power source, feeder and gun. As wire speed increases or decreases, the arc voltage also increases or decreases to maintain a constant welding arc.
- **Special Trigger Hold (S4T)** allows to hold the preset Initial Current by user until get a successful Arc Start on Aluminum plate.
- **Featured Wave-form control system:** Maintains a stable, smooth arc for short arc welding on steel. Improved penetration on thicker aluminum sections.
- **Burn Back function.**
- **Fast, precise, clean arc ignition and arc ending.**
- **10 channels memory capacity.**

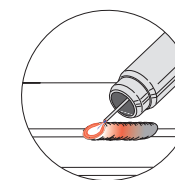
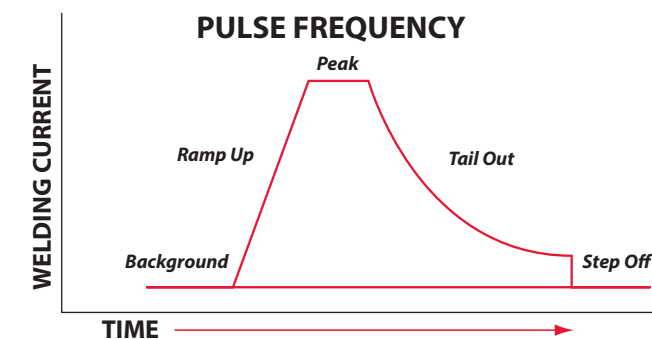
DOUBLE PULSE



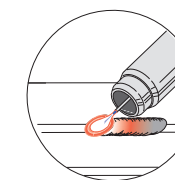
Double Pulse uses a sequence of varying pulse wave shapes to produce a TIG-like bead appearance and excellent weld properties when MIG welding aluminum. Double Pulse controls arc length and heat input together, making it easier to achieve good penetration.

See page 11

PULSED MIG



Low Heat (Background)



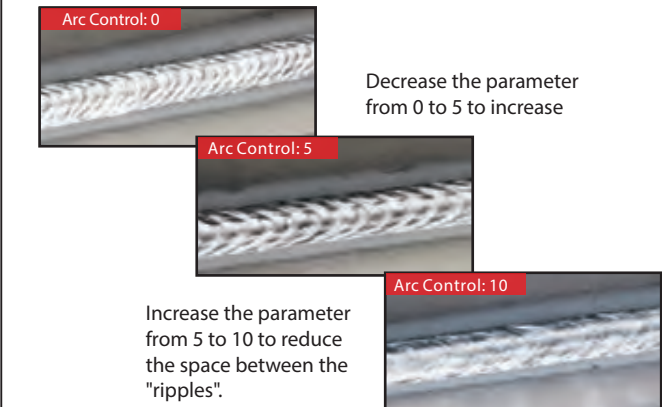
High Heat (Peak)

Pulsed MIG varies weld current between peak (high heat) and background (low heat) current to provide better control of heat input, which minimizes warping and burnthrough on thin materials. Pulsed MIG also enables flat, horizontal, vertical up, or overhead welding without a slag system. Optimized GMAW-P waveforms are readily available to use on aluminum, carbon steel, high strength low alloy steel, stainless steel, and nickel alloys. See Page 09

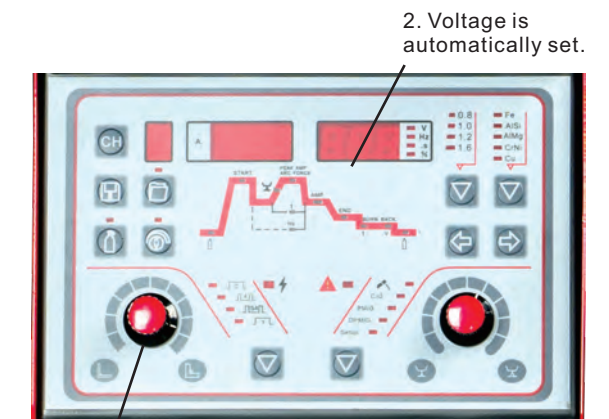
DYNAMIC CONTROL

Dynamic Control is to

- Increase or decrease the arc length.
- In Double Pulse Mode, adjust Dynamic Control to increase or decrease the space between the ripples.



SYNERGIC MIG



1. Use one knob to set procedures.

The synergic operation of the machine makes it easy to use, even for the beginning welder. One knob control permits the welder to select the wire feed speed, and then the voltage value automatically follows.

ALUMIG-250P/300P

Technical specifications

Item No	ALUMIG-250P	ALUMIG-300P
Rated Input Voltage	1PH ~ 230V ±15%	3PH ~ 400V ±15%
Max. Load Power Capacity	10.35KVA	12.04KVA
Rated Duty Cycle(40°C) 60%	MIG: 250A/26.5V	MIG: Separated Wire-feeder: 300A/29V Internal Wire-feeder: 250A/26.5V
	MMA: 250A/28V	MMA: 250A/28V
100%	MIG: 200A/24V	MIG: 250A/26.5V
	MMA: 200A/28V	MMA: 250A/30V
Welding Current/Voltage Range	MIG: 10A/14.5V~250A/26.5V	MIG: 10A/14.5V~300A/29V
	MMA:10A/20.4V~250A/30V	MMA:10A/20.4V~300A/32V
Open Circuit Voltage	55V	55V
Power Factor	0.8	0.85
Efficiency	80%	85%
Pre-Gas Time	0.1-15S	0.1-15S
Flow-Gas Time	0.1-15S	0.1-15S
Wire-feed Mechanism	4 Rollers	4 Rollers
Wire-feed Speed Range	0~25m/ min	0~25m/ min
Wire Spool Capacity	300mm (15kg)	300mm (15kg)
Filler Wires Ø (mm) Fe, Ss:	0.6~1.2 mm	0.6~1.2mm
FLUX CORED:	0.9~1.2 mm	0.9~1.2 mm
Al:	0.8~1.2 mm	1.0~1.2 mm
Dimension:	770x250x650mm	770x250x650mm
Weight:	32KG	32KG

Water-cooling Unit: WC-150 (optional)

Operating Voltage	230V 50/60Hz
Rated Power	260W
Cooling Power	1.5KW(1L/MIN)
Maximum Pressure	0.3MPA/60HZ
Recommended Cooling Liquid	20%~40% ethanol/water
Tank Volume	6.5L

Accessories

ALUMIG-250P/300P

For Standard accessories



MIG torch: MIG 24KD
Euro Connector
Cable length 3M



Electrode holder with cable 2M
Earth clamp with cable 2M

For Optional accessories



Argon gas regular
or CO₂ gas regular with heater



Push-pull Troch:
QTLB-24KD/36KD

ALUMIG-350CP/500CP

Technical specifications

Item No	ALUMIG-350CP	ALUMIG-500CP
Rated Input Voltage	3PH ~ 400V ±15%	3PH ~ 400V ±15%
Max. Load Power Capacity	15.26KVA	26.99KVA
Rated Duty Cycle(40°C) 60%	MIG: 350A/31.5V	MIG: 500A/39V
	MMA: 350A/34V	MMA: 500A/40V
100%	MIG: 300A/29V	MIG: 350A/31.5V
	MMA:300A/32V	MMA:350A/34V
Welding Current/Voltage Range	MIG: 10A/14.5V~350A/31.5V	MIG: 10A/14.5V~500A/39V
	MMA:10A/20.4V~350A/34V	MMA:10A/20.4V~500A/40V
Open Circuit Voltage	70V~80V	70V~80V
Power Factor	0.85	0.85
Efficiency	85%	85%
Pre-Gas Time	0.1-15S	0.1-15S
Flow-Gas Time	0.1-15S	0.1-15S
Wire-feed Mechanism	4 Rollers	4 Rollers
Wire-feed Speed Range	0~25m/ min	0~25m/ min
Wire Spool Capacity	300mm (15kg)	300mm (15kg)
Filler Wires Ø (mm) Fe, Ss:	0.6~1.6 mm	0.6~1.6 mm
FLUX CORED:	0.8~1.6 mm	0.8~1.6 mm
Al:	1.0~1.6mm	1.0~1.6 mm
Dimension :	960X420X1400mm	960X420X1400mm
Weight :	65KG	85KG

Water-cooling Unit: WC-150

Operating Voltage	230V 50/60Hz
Rated Power	260W
Cooling Power	1.5KW(1L/MIN)
Maximum Pressure	0.3MPA/60HZ
Recommended Cooling Liquid	20%~40% ethanol/water
Tank Volume	6.5L

Accessories

ALUMIG-350CP/500CP

For Standard accessories



MIG torch: MIG-501D
PTEE liner



Earth clamp

For Optional accessories



Argon gas regular
or CO₂ gas regular with heater



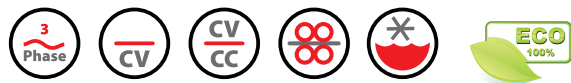
Professional torch:
Tbi 9W/ALU water cooled



Trolley: WT-150

MIG 350HD/500HD

Synergic, Pulse MIG Welder



Quick Specs



Processes:

MIG, Flux-Cored
Pulse MIG, MMA(Stick)

Applications:

Metal fabrication workshops
Shipyards and offshore industry
Chemical and process industry
Steel structure workshops

Input Power:

350HD: 400V,3-Phase
500HD: 400V,3-Phase

Amperage Range:

350HD:10-350A
500HD:10-500A

Rated Output at 40°C (104°F):

350HD:350A at 31.5V @60% Duty Cycle
500HD: 500A at 39V @60% Duty Cycle

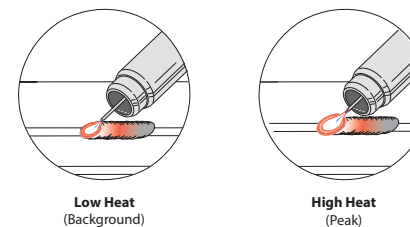
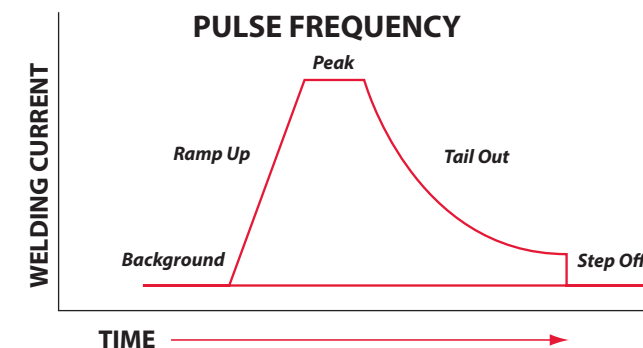
Weight: 350HD: 85KG/500HD:85KG

ADVANCED MIG/MAG:



In the advanced MIG mode, MIG/MAG welding is carried out in inert gas with automatic wire feed. With this mode, a high welding speed and excellent quality are offered without any extra costs in the processing of ferrous metals, as well as various steels. See page 07

PULSED MIG



Pulsed MIG varies weld current between peak (high heat) and background (low heat) current to provide better control of heat input, which minimizes warping and burn through on thin materials. Pulsed MIG also enables flat, horizontal, vertical up, or overhead welding without a slag system. Optimized GMAW-P waveforms are readily available to use on aluminum, carbon steel, high strength low alloy steel, stainless steel, and nickel alloys. See Page 09

THE ADVANTAGE OF WAVE-FORM CONTROL SYSTEM



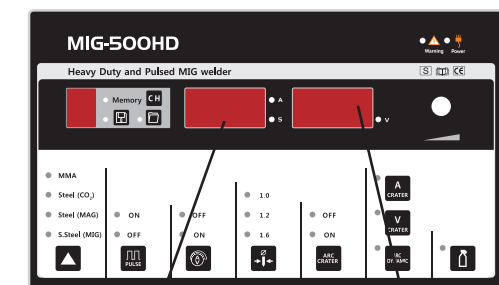
Fe,Pulsed



Fe, no Pulsed

The latest technology of Waveform Control System with pulsed MIG control mode, can perfectly control the output of welding power and get the precision Arc performance. The wire melting droplet transfer cycle is very clear, the welding beam is very clean and very few spatters during welding.

SYNERGIC MIG



1. Use one knob to set procedures.

2. Voltage is automatically set.

The synergic operation of the machine makes it easy to use, even for the beginning welder. One knob control permits the welder to select the wire feed speed, and then the voltage value automatically follows.

TOP Features:

- **Multi-Process capable** – Welds MIG, flux-cored, stick and pulsed MIG.
- **Pulse MIG** – Cost savings, better quality, improved productivity and easier operation.
- **Dynamic Control** – Set arc control to crisp or soft depending on your preference and application.
- **Synergic control** – Set weld procedures with one control, simple and easy to operate.
- **Synergic MIG** provides communication between power source, feeder and gun. As wire speed increases or decreases, the arc voltage also increases or decreases to maintain a constant welding arc.
- **All position carbon steel welding with Pulse MIG process:** use the cheaper CO₂ gas but get a similar Ar/CO₂ MAG welding performance.
- **Featured Wave-form control system:** Maintains a stable, smooth arc for short arc welding on steel. Improved penetration on thicker aluminum sections.
- **Arc Crater function**
- **Fast, precise, clean arc ignition and arc ending.**
- **10 channels memory capacity.**

MIG-350HD/500HD

Technical specifications

Item No	MIG-350HD	MIG-500HD
Rated Input Voltage	3PH ~ 400V ±15%	3PH ~ 400V ±15%
Max. Load Power Capacity	15.26KVA	26.99KVA
Rated Duty Cycle(40°C) 60%	MIG: 350A/31.5V	MIG: 500A/39V
	MMA: 350A/34V	MMA: 500A/40V
	100%	MIG: 300A/29V
	MMA:300A/32V	MMA:350A/34V
Welding Current/Voltage Range	MIG: 10A/14.5V~350A/31.5V	MIG: 10A/14.5V~500A/39V
	MMA:10A/20.4V~350A/34V	MMA:10A/20.4V~500A/40V
Open Circuit Voltage	70V~80V	70V~80V
Power Factor	0.85	0.85
Efficiency	85%	85%
Pre-Gas Time	Preset	Preset
Flow-Gas Time	Preset	Preset
Wire-feed Mechanism	4 Rollers	4 Rollers
Wire-feed Speed Range	0~25m/ min	0~25m/ min
Wire Spool Capacity	300mm (15kg)	300mm (15kg)
Filler Wires Ø (mm) Fe, Ss:	0.6~1.6 mm	0.6~1.6 mm
Dimension (LxWxH)	960x420x1400mm	960x420x1400mm
Weight (KG)	85KG	85KG

Water-cooling Unit: WC-150

Operating Voltage	230V 50/60Hz
Rated Power	260W
Cooling Power	1.5KW(1L/MIN)
Maximum Pressure	0.3MPA/60HZ
Recommended Cooling Liquid	20%~40% ethanol/water
Tank Volume	6.5L

Accessories

MIG-350HD/500HD

For Standard accessories



MIG torch: MIG-501D
PTEE liner



Earth clamp

For Optional accessories



Argon gas regular
or CO₂ gas regular with heater



Trolley: WT-150



MIG-250i/300i, MT-250i/300i

Compact design, heavy duty powers



Quick Specs



Processes:

MIG, Flux-Cored, MMA(Stick), TIG(MT-250i/300i)

Applications:

Metal Fabrication
Maintenance and Repair
Auto Body
Light Industrial

Input Power:

MIG-250i/MT-250i: 230V,1-Phase
MIG-300i/MT-300i: 400V,3-Phase

Amperage Range:

MIG-250i: 30-250A
MIG-300i: 30-300A
MT-250i: 30-250A
MT-300i: 30-300A

Rated Output at 40°C (104°F):

MIG-250i: 250A at 26.5V @60% Duty Cycle
MIG-300i: 300A at 29V @60% Duty Cycle
MT-250i: 250A at 26.5V @60% Duty Cycle
MT-300i: 300A at 29V @60% Duty Cycle

Weight : 32KG

TOP Features:

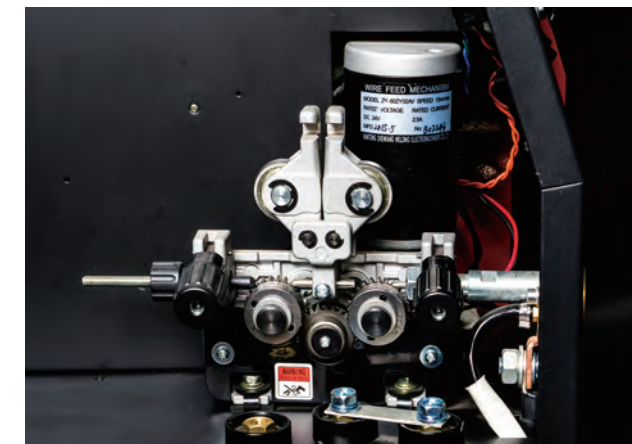
- **Multi-Process capable** – Welds MIG, flux-cored and MMA(stick), TIG(MT-250i/300i).
- **Superior MAG Process** – Welds with mixed or CO shielding gas 2 for superior quality welding.
- **Spot/Stitch mode is easy to operate and provides a quick and effective means for spot welding mild, galvanized or stainless materials.**
- **4T Trigger Hold** allows to hold the present current by user until press the trigger again.
- **Professional 4-rolls wire-feeder provides a stable wire speed.**
- **10 Pins multipurpose AMP connectors extend the usage range and it's easy to work with a push-pull torch or spool gun.**
- **Fast, precise, clean arc ignition and arc ending.**

ADVANCED MIG/MAG:



In the advanced MIG mode, MIG/MAG welding is carried out in inert gas with automatic wire feed. With this mode, a high welding speed and excellent quality are offered without any extra costs in the processing of ferrous metals, as well as various steels. See page 07

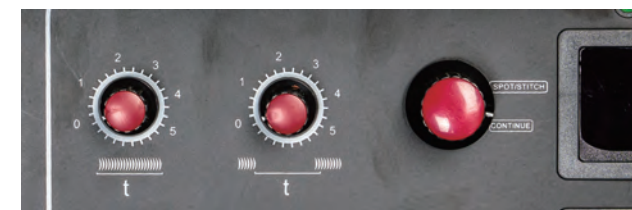
FOUR-ROLLERS DRIVE SYSTEMS



4-Roll wire-feeder with strong feeding motor

Four-rollers drive systems deliver the electrode to the welding torch. It provides a stable wire speed and is popular for industrial applications.

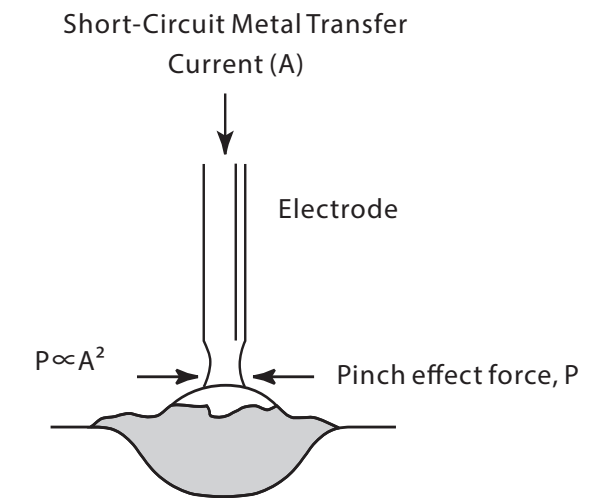
SPOT/STITCH MODE



Use the spot and cycle arc timer you can easily control the welding time and the stitch length during the continue spot welding jobs.

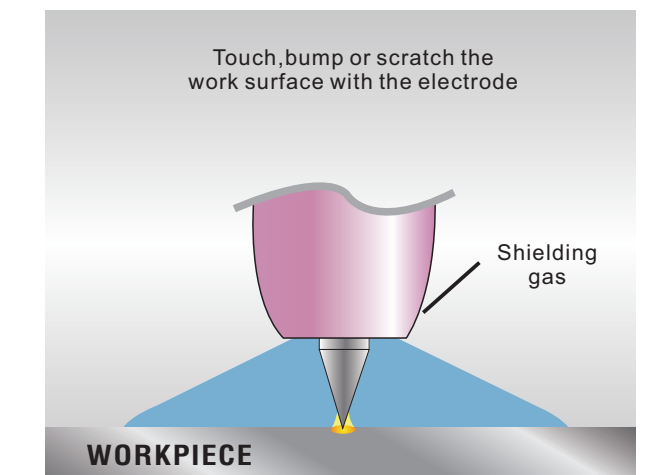
Spot/Stitch mode provides a quick and effective means for spot welding mild, galvanized or stainless materials. Very useful for the car body repairs.

THE SHORT-CIRCUITING METAL TRANSFER



The short-circuiting metal transfer mode is the low heat input mode of metal transfer for GMAW and has higher electrode efficiencies, 93% or more. The low heat input reduces weldment distortion and makes it ideal for sheet metal thickness materials.

Lift TIG Mode(MT-250i/300i)



Lift TIG Mode provides TIG arc initiation without the use of high frequency. Touch, bump or scratch the work surface with the electrode to start the arc. It also has a good result in tig welding.

MIG-250i/300i

Technical specifications

Item No	MIG-250i	MIG-300i
Rated Input Voltage	1PH ~ 230V ±15%	3PH ~ 400V ±15%
Max. Load Power Capacity	10.35KVA	12.04KVA
Rated Duty Cycle(40°C) 60%	MIG: 250A/26.5V	MIG: Separated Wire-feeder: 300A/29V Internal Wire-feeder: 250A/26.5V
	MMA: 250A/28V	MMA: 250A/28V
100%	MIG: 200A/24V	MIG: 250A/26.5V
	MMA: 200A/28V	MMA:250A/30V
Welding Current/Voltage Range	MIG: 30A/15.5V~250A/26.5V	MIG: 30A/15.5V~300A/29V
	MMA:30A/21.2V~250A/30V	MMA:30A/21.2V~300A/32V
Open Circuit Voltage	70V~80V	70V~80V
Power Factor	0.8	0.85
Efficiency	80%	85%
Pre-Gas Time	Preset	Preset
Flow-Gas Time	Preset	Preset
Wire-feed Mechanism	4 Rollers	4 Rollers
Wire-feed Speed Range	0~25m/ min	0~25m/ min
Wire Spool Capacity	300mm (15kg)	300mm (15kg)
Filler Wires Ø (mm) Fe, Ss:	0.6~1.2 mm	0.6~1.2 mm
Dimension (LxWxH)	770x250x650mm	770x250x650mm
Weight (KG)	32KG	32KG

MT-250i/300i

Technical specifications

Item No	MT-250i	MT-300i
Rated Input Voltage	1PH ~ 230V ±15%	3PH ~ 400V ±15%
Max. Load Power Capacity	10.35KVA	12.04KVA
Rated Duty Cycle(40°C) 60%	TIG: 250A/20V	TIG: 300A/22V
	MIG: 250A/26.5V	MIG: Separated Wire-feeder: 300A/29V Internal Wire-feeder: 250A/26.5V
	MMA: 250A/28V	MMA: 250A/28V
100%	TIG:200A/18V	TIG:250A/20V
	MIG: 200A/24V	MIG: 250A/26.5V
	MMA: 200A/28V	MMA:250A/30V
Welding Current/Voltage Range	TIG:30A/11.2V~250A/20V	TIG:30A/11.2V~300A/22V
	MIG: 30A/15.5V~250A/26.5V	MIG: 30A/15.5V~300A/29V
	MMA:30A/21.2V~250A/30V	MMA:30A/21.2V~300A/32V
Open Circuit Voltage	70V~80V	70V~80V
Power Factor	0.8	0.85
Efficiency	80%	85%
Pre-Gas Time	Preset	Preset
Flow-Gas Time	Preset	Preset
Wire-feed Mechanism	4 Rollers	4 Rollers
Wire-feed Speed Range	0~25m/ min	0~25m/ min
Wire Spool Capacity	300mm (15kg)	300mm (15kg)
Filler Wires Ø (mm) Fe, Ss:	0.6~1.2 mm	0.6~1.2 mm
Dimension (LxWxH)	770x250x650mm	770x250x650mm
Weight (KG)	32KG	32KG

Accessories

MIG-250i/300i

For Standard accessories



MIG torch: MIG 24KD
Euro Connector
Cable length 3M



Electrode holder with cable 2M
Earth clamp with cable 2M



Argon gas regular
or CO₂ gas regular with heater



Push-pull Troch:
QTLB-24KD/36KD



Spool gun:
QLBF-200/8M

For Optional accessories

Accessories

MT-250i/300i

For Standard accessories



MIG torch: MIG 24KD
Euro Connector
Cable length 3M



Electrode holder with cable 2M
Earth clamp with cable 2M



TIG torch: WP-26
Gas connector:M16
Cable length 4M
5-pin control coupler



Argon gas regular
or CO₂ gas regular with heater



Push-pull Troch:
QTLB-24KD/36KD

For Optional accessories

Multi MIG-200Di/200MV, ECOMIG-350F

Portable MIG, TIG, MMA(Stick) welder



Quick Specs



Processes:

MIG
Flux-Cored
TIG(Lift TIG)
MMA(Stick)

Applications:

Metal Fabrication
Maintenance and Repair
Auto Body
Light Industrial

Input Power:

200Di: 1PH ~ 230V ±15%
200MV: 1PH ~ 115V/230V ±15%
350F: 380V, 3-Phase

Amperage Range:

200Di/200MV: 10-200A
350F: 10-350A

Rated Output at 40°C (104°F):

200A at 24V @60% Duty Cycle
350A at 31.5V @60% Duty Cycle

Weight: 20KG/38KG

TOP Features:

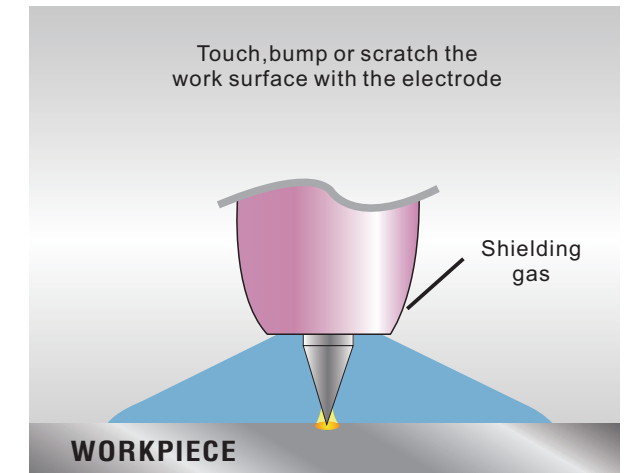
- **Multi-Process capable** - Welds MIG, flux-cored, TIG (Lift TIG) and MMA (Stick).
- **Powerful peak current** confirms deep penetration and wide welding capacity. The peak short circuit current is up to around 435Amps on MIG process.
- **Dynamic Control** - Set arc control to crisp or soft depending on your preference and application
- **Featured Wave-form control system:** Maintains a stable, smooth arc for short arc welding on steel. Improved penetration on thicker aluminum sections. Very clear wire melting drop transfer, very few spatters.
- **Voltage Reduction Device (VRD).**
- **Fast, precise, clean arc ignition and arc ending.**
- **MIG Spot welds.**

ADVANCED MIG/MAG:



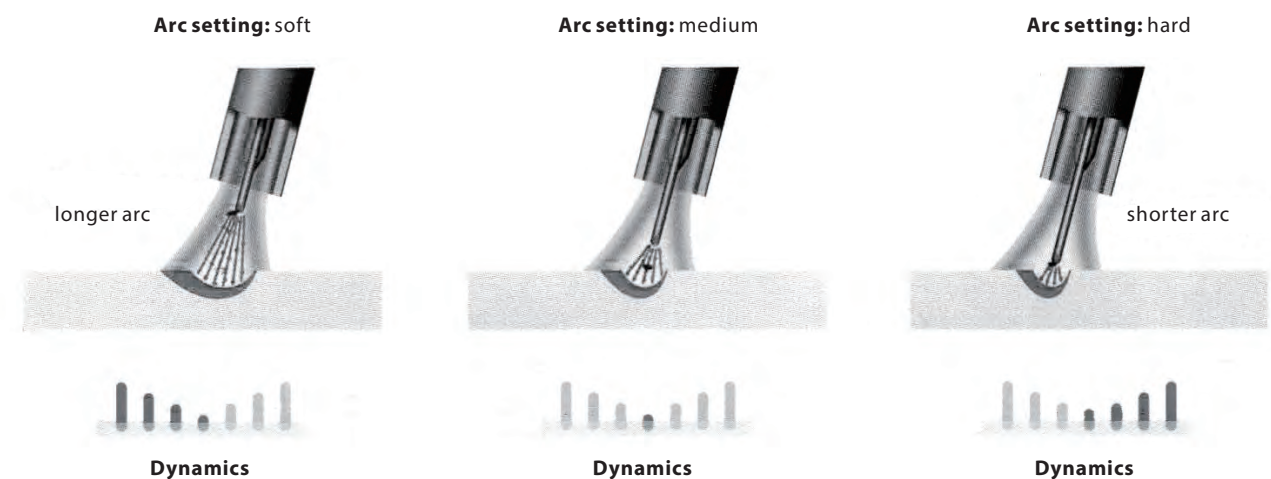
In the advanced MIG mode, MIG/MAG welding is carried out in inert gas with automatic wire feed. With this mode, a high welding speed and excellent quality are offered without any extra costs in the processing of ferrous metals, as well as various steels. See page 11

Lift TIG Mode



Lift TIG Mode provides TIG arc initiation without the use of high frequency. Touch, bump or scratch the work surface with the electrode to start the arc. It also has a good result in tig welding.

DYNAMIC CONTROL



Dynamic control with a push of a button

You know how it is from experience. Every transformer system has its own unique characteristics. One system produces a slightly softer arc, while the next generates a slightly harder arc. More importantly, every welder has his own preference in terms of what he considers to be the perfect arc: softer and longer, shorter and harder or somewhere in between. This calls for a level of distinction that a transformer systems simply cannot realize. Our system allows you to individually adjust the dynamics of the arc to suit the work and welding position at hand and will find the simplest and fastest arc setting that is most suitable in each case. The rest of the job is carried out by the intelligent arc control technology incorporated into the background to achieve a perfect weld seam every time.

Multi MIG-200Di/200MV

Technical specifications

Item No	Multi MIG-200Di	Multi MIG-200MV
Rated Input Voltage	1PH ~ 230V ±15%	1PH ~ 115V/230V ±15%
Max. Load Power Capacity	8.75KVA	6.06KVA
Rated Duty Cycle(40°C) 60%	MIG: 200A/24V	MIG: 200A/24V
	MMA: 200A/28V	MMA: 200A/28V
	TIG: 200A/18V	TIG: 200A/18V
	100%	MIG: 160A/22V
	MMA: 160A/26.4V	MMA: 160A/26.4V
	TIG: 160A/16.4V	TIG: 160A/16.4V
Welding Current/Voltage Range	MIG: 10A/14.5V ~200A/24V	MIG: 10A/14.5V ~200A/24V
	MMA: 20A/20.8V~200A/28V	MMA: 20A/20.8V~200A/28V
	TIG: 5A/10.2V~200A/18V	TIG: 5A/10.2V~200A/18V
Open Circuit Voltage	70V~80V	70V~80V
Power Factor	0.8	0.99
Efficiency	80%	80%
Pre-Gas Time	Preset	Preset
Flow-Gas Time	Preset	Preset
Wire-feed Mechanism	2 Rollers	2 Rollers
Wire-feed Speed Range	2-18m/min	2-18m/min
Wire Spool Capacity	200mm (5kg)	200mm (5kg)
Filler Wires (mm) Fe solid wire:	0.6~1.0 mm	0.6~1.0 mm
Dimension	490x230x385mm	490x230x385mm
Weight	20KG	20KG

ECOMIG-350F

Technical specifications

Item No	ECOMIG-350F
Rated Input Voltage	3PH ~ 380V ±15%
Max. Load Power Capacity	15.26KVA
Rated Duty Cycle(40°C) 60%	MIG: 350A/31.5V
	MMA: 350A/34V
	100%
Welding Current/Voltage Range	MIG: 300A/29V
	MMA:300A/32V
Open Circuit Voltage	MIG: 10A/14.5V~350A/31.5V
Power Factor	MMA:10A/20.4V~350A/34V
Spot welding	70V~80V
Efficiency	0.85
Pre-Gas Time	Yes
Flow-Gas Time	85%
Wire-feed Mechanism	Preset
Wire-feed Speed Range	Preset
Wire Spool Capacity	4 Rollers
Filler Wires Ø (mm) Fe, Ss:	0~25m/ min
Dimension (LxWxH)	300mm (15kg)
Weight (KG)	0.6~1.6 mm
	540x240x480mm
	38KG

Accessories

Multi MIG-200Di/200MV

For Standard accessories

For Optional accessories



MIG torch: MB15AK
Euro Connector
Cable length 3M



Electrode holder with cable 2M
Earth clamp with cable 2M



Argon gas regular
or CO₂ gas regular with heater



TIG torch: WP-26
Gas connector:M16
Cable length 4M
5-pin control coupler



Spool gun:
QLBF-200/8M

Accessories

ECOMIG-350F

For Standard accessories

For Optional accessories



MIG torch: MIG 24KD
Euro Connector
Cable length 3M



Electrode holder with cable 2M
Earth clamp with cable 2M



Argon gas regular
or CO₂ gas regular with heater



Push-pull Torch:
QTLB-24KD/36KD



Spool gun:
QLBF-200/8M



TIG(GTAW)

MASTER TIG-200AC/250AC	35
MASTER TIG-400CT/500CT	35
PROTIG-200Di/250Di	39
PROTIG-315Di	39
PROTIG-400CT/500CT	39
ALUTIG-200P/200MV	45
ALUTIG-200HD/250HD	45
HANDY TIG-200Di/MV	49



PROFESSIONAL IN WELDING

AC WAVEFORMS



Standard Square Wave: Travel faster



Soft Square Wave: Max puddle control



Sine Wave: Traditional arc



Triangle Wave: Reduced heat input

Standard Square Wave

The Standard Square Wave offers fast transitions between EN and EP for a responsive, dynamic, and focused arc with better directional control. It forms a fast-freezing puddle with deep penetration and fast travel speeds.

Soft Square Wave

The Soft Square Wave provides a smooth, soft, "buttery" arc with a fluid puddle and good wetting action. The puddle is more fluid than with standard square wave and more controllable than with sine wave.

Sine Wave

The Sine Wave a soft arc with the feel of a conventional power source. It provides good wetting action and actually sounds quieter than other waves. Its fast transition through the zero amperage point also eliminates the need for continuous high frequency.

Triangle Wave

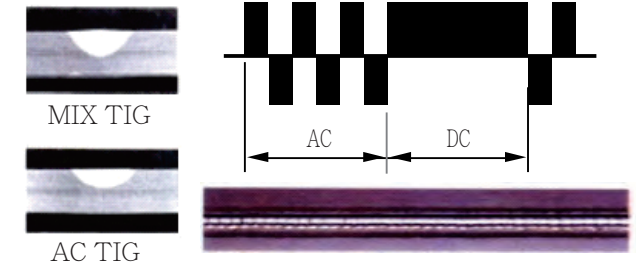
The Triangular Wave peak amperage while reducing overall heat input into the weld. This leads to quick puddle formation, low weld distortion, and fast travel speeds. It is especially good for welding thin aluminum.

MIX TIG Control

Features of MIX TIG:

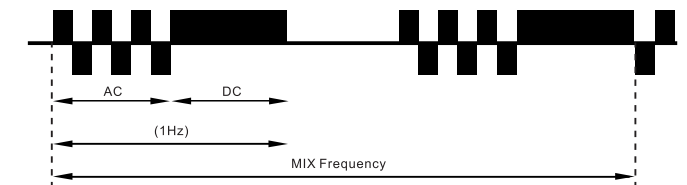
The AC current can get a very good clearance, and DC current can get a deeper penetration. Use the MIX TIG we can get an excellent Arc Concentration, can be carried out the excellent welding performance from thin to thick plate.

- 1) Nice weld appearance, deep penetration.
- 2) Excellent Arc Concentration.
- 3) Substantially reduce the electrode consumption.



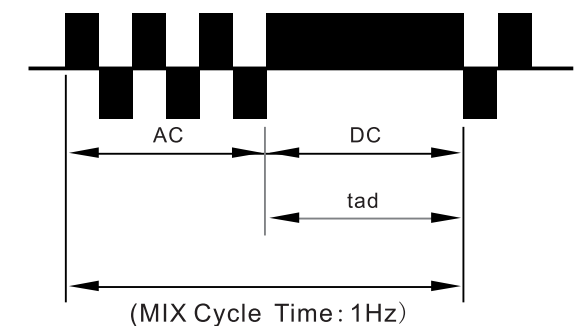
MIX TIG Frequency (Hz):

the cycle time of MIX TIG in 1 second. Adjustable range: 1-5Hz.



MIX TIG Balance (DC) %:

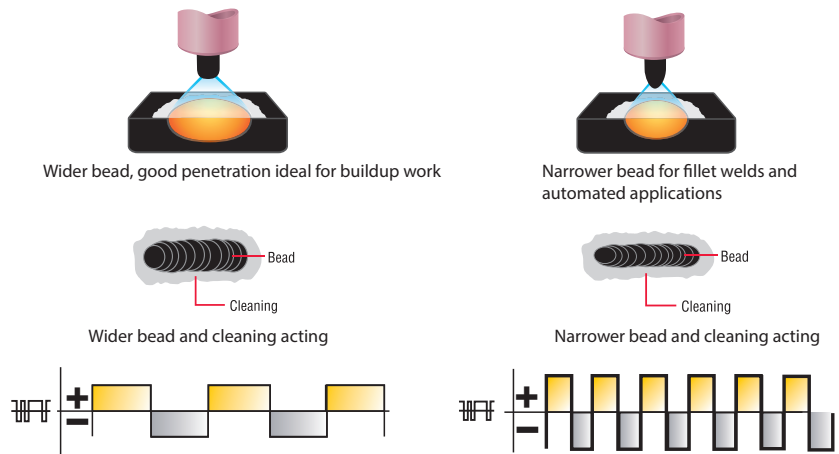
DC Balance (%) = $(t_{ad}/T_{mix}) \times 100$



AC Waveshape Controls

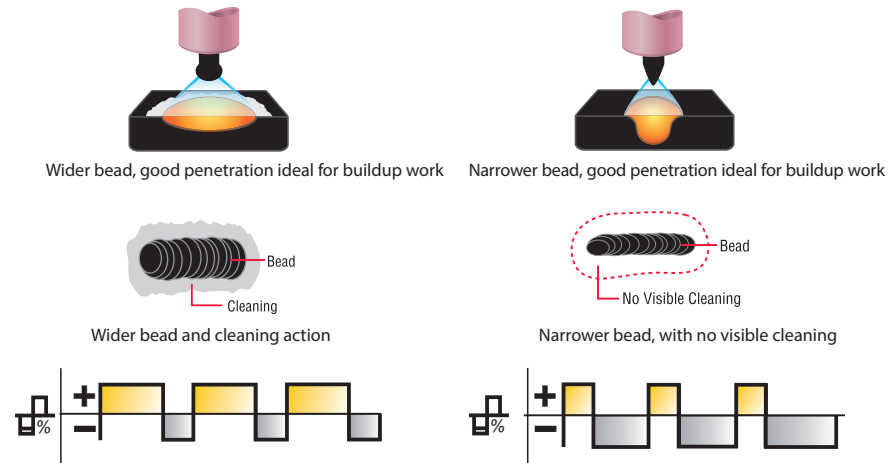
AC Frequency control
 Controls the width of the arc cone. Increasing the AC Frequency provides a more focused arc with increased directional control.

Note: Decreasing the AC Frequency softens the arc and broadens the weld puddle for a wider weld bead.



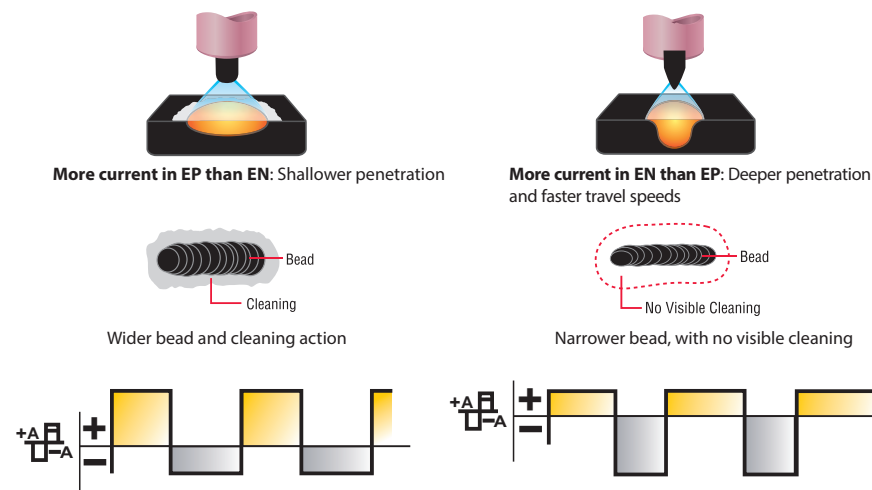
AC Balance Control
 Controls arc cleaning action. Adjusting the % EN of the AC wave controls the width of the etching zone surrounding the weld.

Note: Set the AC Balance control for adequate arc cleaning action at the sides and in front of the weld puddle. AC Balance should be fine tuned according to how heavy or thick the oxides are.



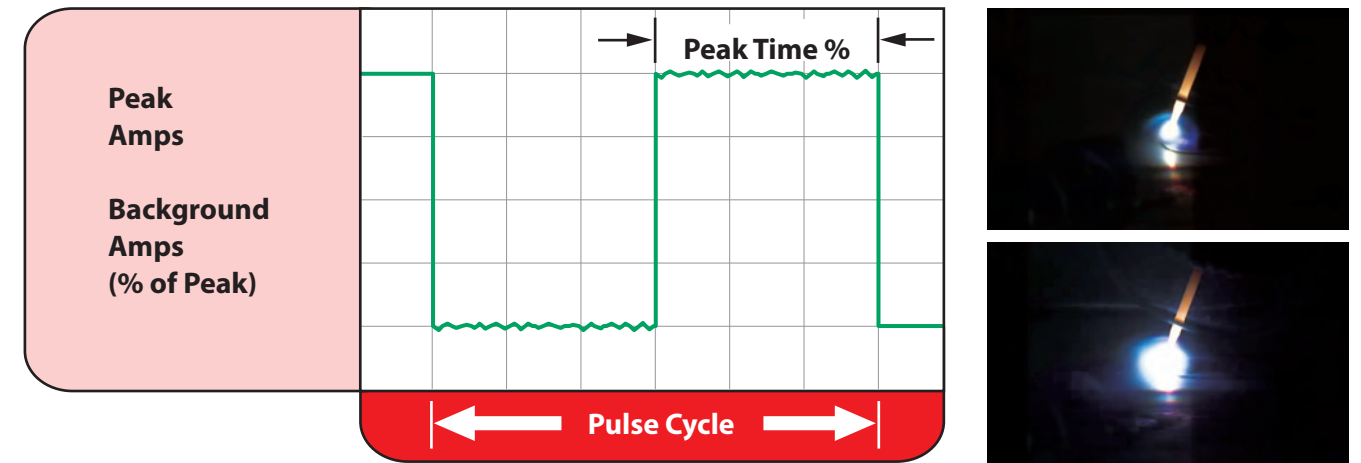
Amplitude Control
 Adjusts the ratio of EN to EP amperage to precisely control heat input to the work and the electrode.

EN amperage controls the level of penetration, while EP amperage dramatically effects the arc cleaning action along with the AC Balance control.



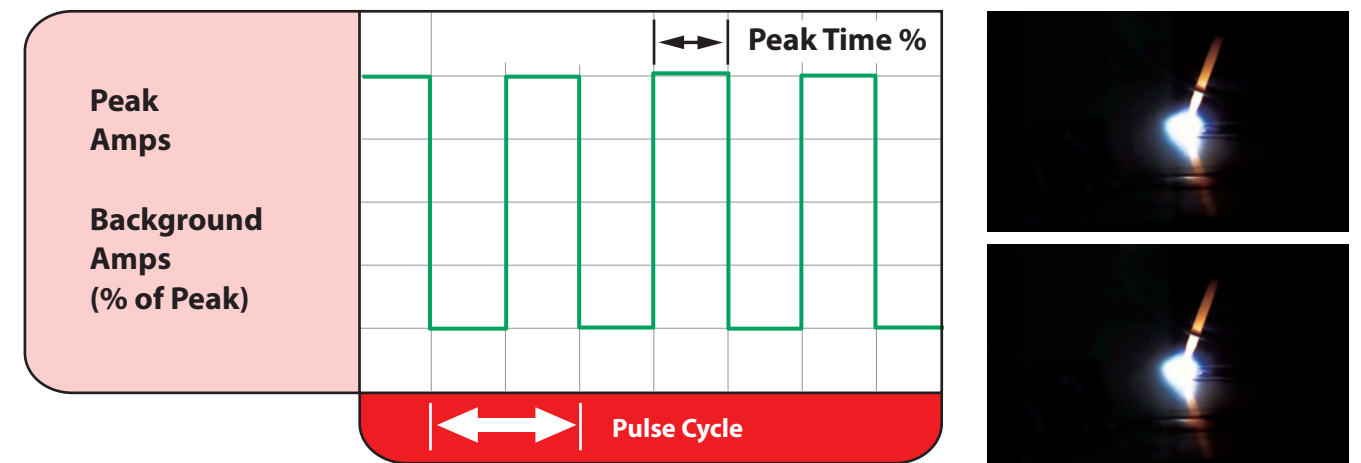
Pulse TIG

CONVENTIONAL PULSED TIG



Typically from 0.2 to 10 PPS. Provides a heating and cooling effect on the weld puddle and can reduce distortion by lowering the average amperage. This heating and cooling effect also produces a distinct ripple pattern in the weld bead. The relationship between pulse frequency and travel speed determines the distance between the ripples. Slow pulsing can also be coordinated with filler metal addition and can increase overall control of the weld puddle.

HIGH SPEED PULSED TIG



In excess of 40 PPS, Pulsed TIG becomes more audible than visible—causing increased puddle agitation for a better as-welded microstructure. Pulsing the weld current at high speeds — between a high Peak and a low Background amperage — can also constrict and focus the arc. This results in maximum arc stability, increased penetration and increased travel speeds.