



PROFESSIONAL IN WELDING

## PROMIG 360SYN DPulse

Compact, Synergy, High-Speed-Pulse MIG (HSP)



Good choice for metal fabrication | High Speed Pulse MIG | Pulse & Double Pulse MIG

## Quick Specs

Input Voltage	3PH ~ 400V ±15%
Output Range	20A/15V~360A/32V
Duty Cycle(40℃) 60%	360A / 32V(GMAW)

Processes	Applications
SMAW	General Fabrication
FCAW	Education
GMAW	
GMAW-P	
GMAW-HDP	
GMAW-HSP	

## Equipment

Welding process package	
Synergy Control	●
Pulse MIG	●
HSP (High Speed Pulse)	●
HDP (High-Speed Double Pulse)	●
HSA (High-Speed Spray Arc)	○
MDP (Micro Double Process)	○
ULS (Ultra Low Spatter)	○
HPC (Hybrid Pulse Control)	○
HSS (High Speed Spot)	○
Cooling system	
Air-cooled	●
Water-cooled	○



Operational options	
At the wire feeder unit	○
At the power source	●
At the remote control unit	○
● Standard options      ○ Optionally available	

## Advanced Features

### • Synergy Control

Set weld procedures with one control. Just easily takes 3 Steps to achieve weld perfection.

### • Improved Operation Process & Controls

Initial Arc control, Burn Back control, Arc Length control, Dynamic control, these make an easier operation and handling for welding.

### • High Speed Pulse MIG (HSP)

Specifically designed for demanding workshop use, the deposition rate can increase 25~48 % for mild steels by comparing with MAG process.

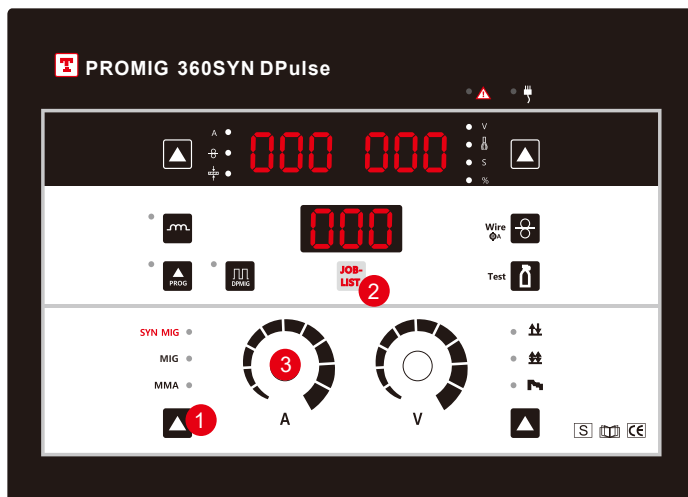
### • High-Speed Double Pulse (HDP)

By the HDP process, it's easy to get a beautiful TIG-Like weld appearance, and the deposition rate could be increased up to 30% if compare to the standard double pulse process, especially in Aluminum.

### • Excellent Arc Performance

By the Advanced Wave Control system, the PROMIG 360SYN DPulse optimized the maximum performance with the most common filler metals, wire diameters and gas mixtures, and very suitable for general fabrications and welding educations.

## Simple Operation



### 3 Steps to achieve weld perfection

1. Select operation mode
2. Select Job-list No. (Welding process)
3. Adjust welding current

(always the perfect setting by the synergy function using the material thickness)

JOBs-list

	Material	Gas	Wire		
			0.8	1.0	1.2
			JOBs No.		
Non-Pulse	MS	100%CO <sub>2</sub>	101	102	103
		82%Ar 18%CO <sub>2</sub>	201	202	203
	Flux Cored	100%CO <sub>2</sub>	/	/	303
HSP (High Speed Pulse)	MS	82%Ar 18%CO <sub>2</sub>	/	402	403
	SS	98%Ar 2%CO <sub>2</sub>	/	502	503
			/	/	/
	AL	100%Ar	/	702	703
			/	802	803

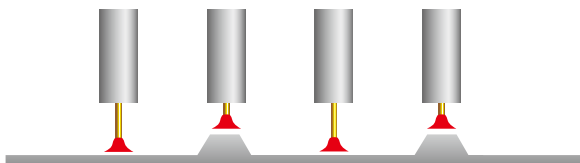
### Synergy control with job-list

The Job-lists display is easily and intuitively controlled through its graphical user interface. We assembled the perfect welding curve in every Job-No. to help the users choose the best welding process for carbon steels, aluminum alloys and stainless steel. Operation is easier than ever before.

## Improved Operation Process & Controls

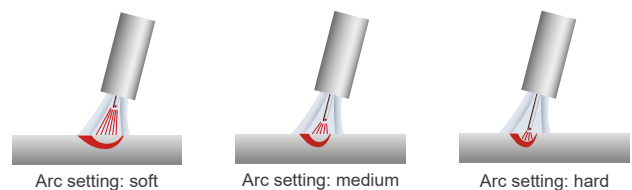
### Arc Length control

With the arc length control, no matter the changing distance between the torch and the workpiece, or the welding voltage, the arc length is kept constant, and the seam quality and appearance remain unchanged.



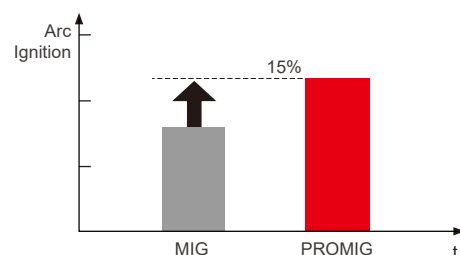
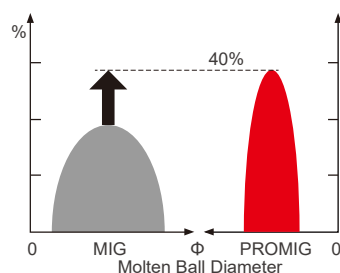
### Dynamic control

The arc can easily be adjusted depending on the workpiece and positions as well as to the individual preferences of the welder through Dynamic Control. Changing the arc to soft or hard or anywhere in between, increases the reliability for a good root formation and side fusion even with a non-ideal position of the torch.



### Initial Arc control & Burn Back control

Initial Arc control is used to improve the success rate of arc ignition and form a smaller molten ball. Burn Back Control enhances the function of eliminating molten ball, making the secondary arc initial easier.



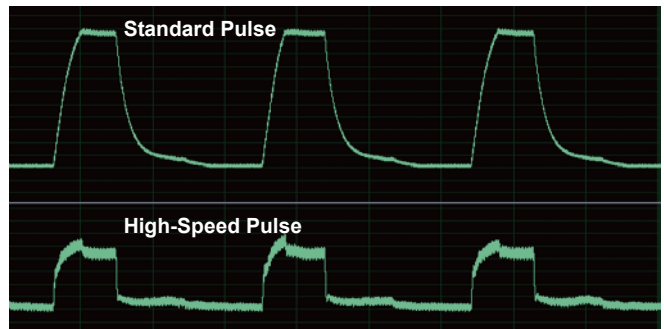
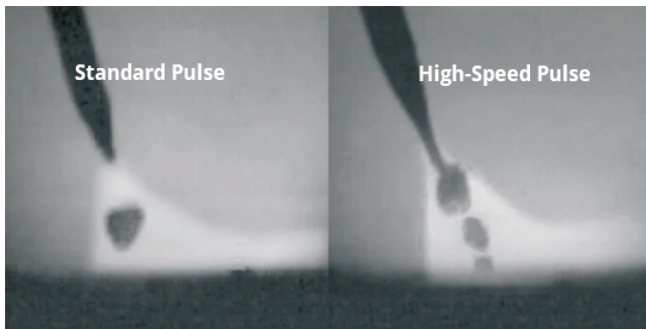


## HSP - High Speed Pulse Technology

Specifically designed for demanding workshop use, **the deposition rate can increase 25~48 %** for various materials, whether used in manufacturing thick materials or sheet metal.

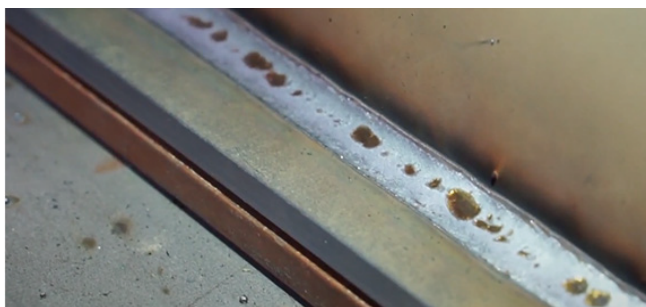
The High-Speed Pulse(HSP) process enables you to save time, money, and energy compared to traditional pulse welding. This process is ready to raise pulse welding to a whole new level!

In general, One pulse melt one droplet, but we increase the submission of these droplets by TOPWELL' s New High-Speed pulse process. The transition will be faster, narrower HAZ zone and deeper penetration!



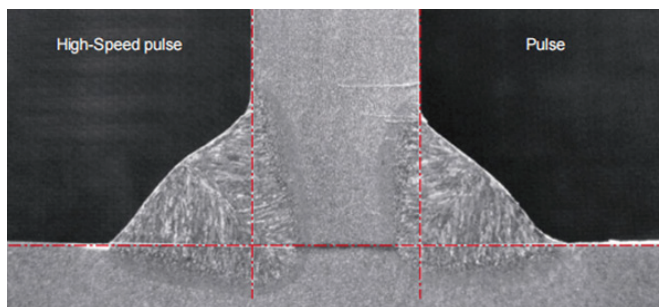
### Get better welding seam

Less heat input, less spatters, less rework



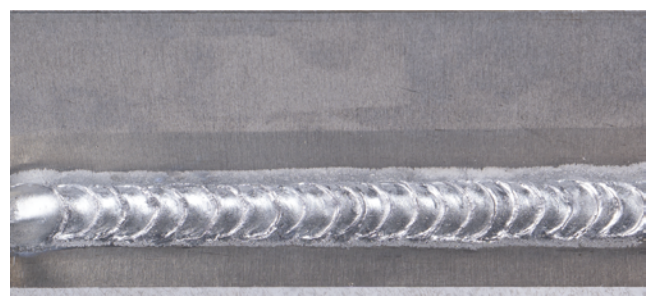
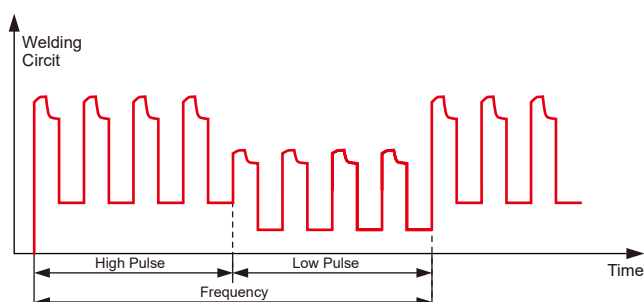
### Get higher welding strength

Deeper penetration, no undercut defects, higher strength.



## HDP - High-speed Double Pulse

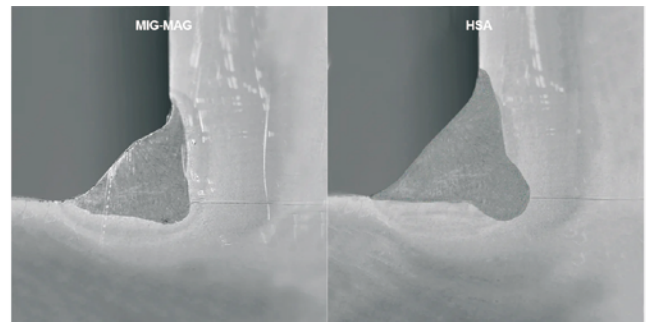
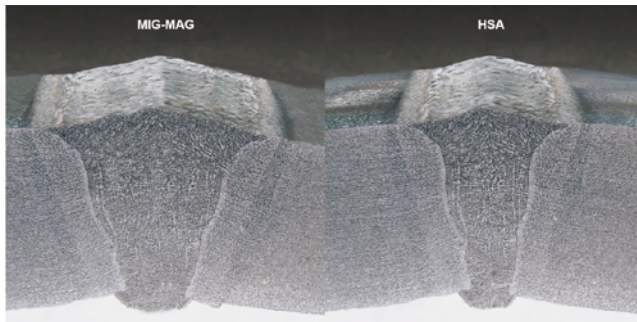
HDP is the High-Speed Double Pulse. The high and low pulse phases of the double pulse work with the High Speed Pulse process, the deposition rate is increased by up to 30%, the welding productivity is significantly improved than a standard double pulse. The professional welding curve for excellent control of heating and cooling phases, ensures precise energy input, low spatter, low distortion and a beautiful TIG-like welding appearance. HDP is particularly suitable for medium to thick-walled welding, especially for Aluminum and Steel applications.



5356  $\phi$ 1.2mm, HDP 5mm AL. welding current: 170A

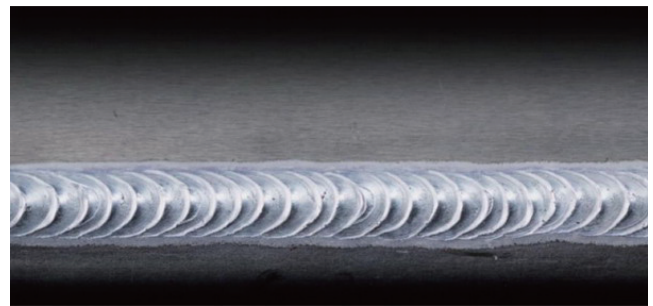
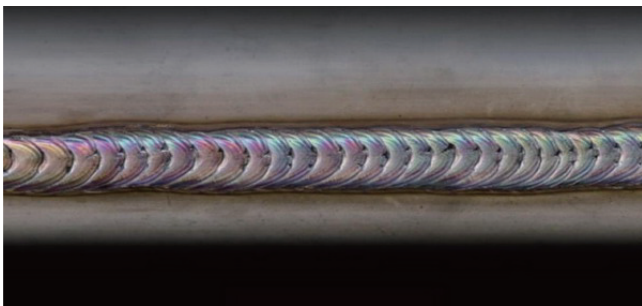
## HSA - High Speed Spray Arc

The perfect combination of a highly concentrated and extremely stable arc with high density. HSA delivers deeper penetration, narrower heating zone, allows smaller opening angles for multi-layer welding, significantly improves the welding speed up to 30% faster than conventional MIG-MAG welding. It makes welding more efficient and more economical.



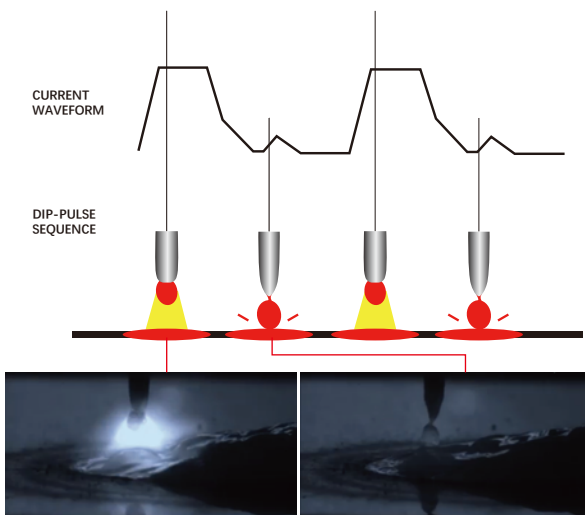
## MDP - Micro Double Process

MDP is Micro Double Process, ultra-precise on the synergy Pulse wave-form controlled process-control, freely adjust the weld seam chevrons from coarse to fine. The key is that when the high and low pulses alternate, there is no droplet formation in the low pulse phase. The advantage of MDP are precise energy input, low distortion, perfect TIG-like welding appearance easily produced by anyone, and the welding productivity can up to twice as quick as the conventional TIG. MDP is particularly suitable for thin to medium-walled (1-8mm) Aluminum, Steel, and CrNi applications, like frames, tables, beds, and furniture structures.



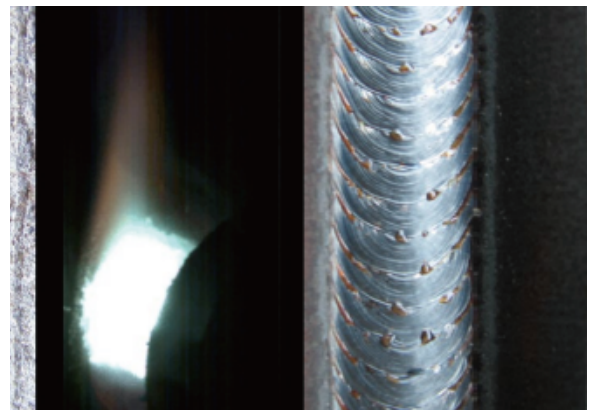
## HPC - Hybrid Pulse Control

The key is synergetic waveform controlled welding process control variants applied in MIG welding which are Pulse (spray arc) and short-circuit transfer types in one duty cycle. It delivers exceptional directional stability, deep penetration and free-spatters.



## HPC Vertical-up Welding Process

The secret is the combination of two processes: one is the high energy phase to heat up the material quickly. Topwell's control technology ensures a perfect transition to the rapidly reduced energy phase. It ensures reliable penetration, precisely sized weld filling and a near- optimal throat thickness. Vertical-up welding with Topwell's HPC process is significantly much faster and simpler than classical "X-Mas tree".



## Specifications

Item No.	PROMIG 360SYN DPulse
Mains voltage(V)	3PH~400V±15% (50/60Hz)
Max.Load Power Capacity	14.88KVA
Output Range	20A/15V~360A/32V
Rated Duty cycle at 40 °C (105 °F): 60%	360A/32V
100%	250A/26.5V
Open Circuit Voltage	70V~80V
Power Factor	0.87
Efficiency	89%
Wire feed unit	4 rollers
Wire feed speed range	0~25m/min
Wire Spool Capacity	300mm(15kg)
Wires φ (mm): Fe	0.8~1.2mm
Alu	0.8~1.2mm
Flux Cored	0.8~1.2mm
Dimension (L x W x H)	950x460x1000mm
Net Weight	64.35KG



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