

Super Active TAWERS WGIII

APPLICATION TYPE

The robot with integrated welding power source has evolved further. High Speed Welding and Ultra Low Spatter.

Super Active Wire Feed Process (S-AWP)

(Super Active Wire Feed Process)

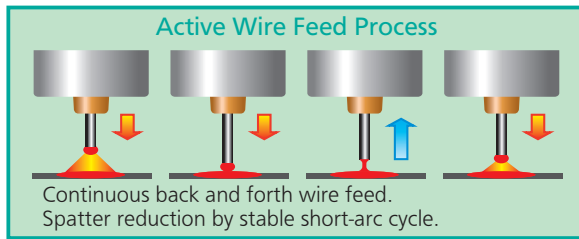
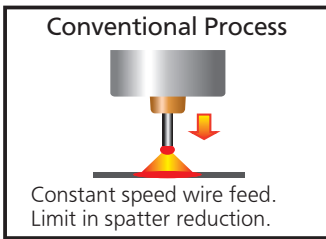
Wider current range and precise wire feed

- High speed and low spatter welding increases productivity.
- 100 % duty cycle at 310 A !
(when using 1.2 mm mild steel solid wire, CO₂ gas, and air-cooling unit)

WGIII

TS	TM	TL
800	1100	1800
950	1400	2000
	1600	
	1800	
	2000	

- TS: Through-Arm, External
- TM: Separate, Through-Arm
(Only separate type supports high voltage touch sensor.)
- TL: External



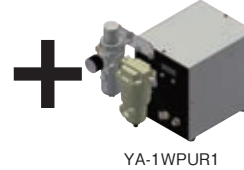
System for both high speed low spatter welding

S-AWP servo pull torch

Wire booster

S-AWP software

Air-cooling unit



YT-CJT351 series

YW-PCF041

YA-1TPMV1

YA-1WPU1

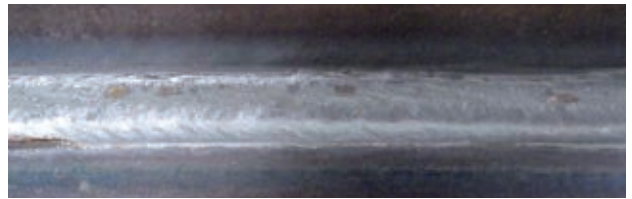
Contact us for details.

High speed welding

- Improved productivity at 100 cm/min or higher
- Beautiful and wide bead

Weld conditions: Joint: Lap Gas: CO₂
Weld current: 320 A
Weld speed: 110 cm/min
Plate thicknesses: 3.2 mm x 3.2 mm

Example of mild steel SPCC

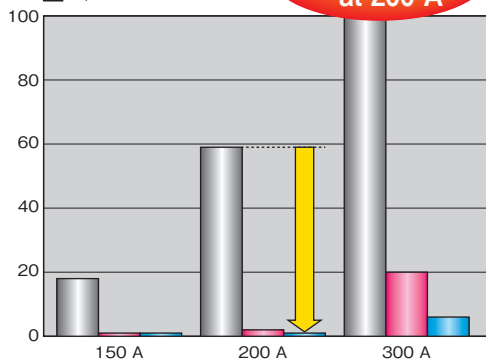


Max. 99 % spatter reduction! (compared to conventional model)

CO₂ gas welding

- Full digital welding machine
- Active TAWERS
- Super Active TAWERS

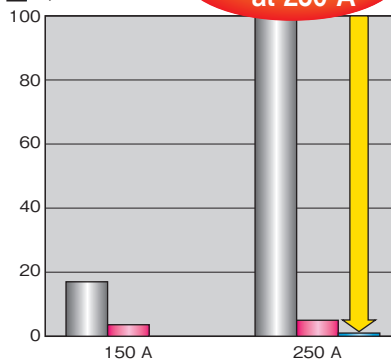
98 % reduction at 200 A



MAG welding

- Full digital welding machine
- Active TAWERS
- Super Active TAWERS

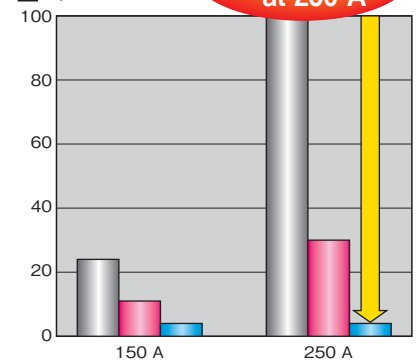
99 % reduction at 250 A



Stainless steel MIG welding

- Full digital welding machine
- Active TAWERS
- Super Active TAWERS

96 % reduction at 250 A



Precautions for use of Super Active servo pull torch

1. Use a copper-coated pail-pack wire.
2. Set the wire cast diameter to between 1000 mm and 1200 mm.

Super Active TAWERS WGIII

APPLICATION TYPE

Burn-through prevention, higher gap tolerance, and better bead appearance for wider applications.

Super Active Wire Feed Process (optional: for thin plate, gap)

HBC (Heat Balance Control) process supports welding of high-tensile steel plates that are becoming thinner.

HBC software

Just add to Super Active TAWERS

Note: This software is effective only for mild steel and stainless steel.

YA-1TPMV1T01



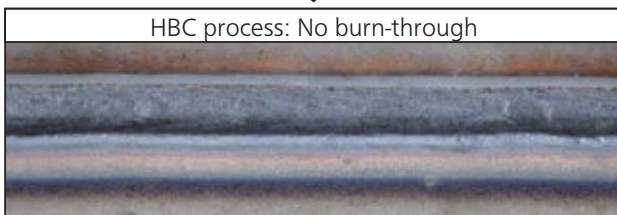
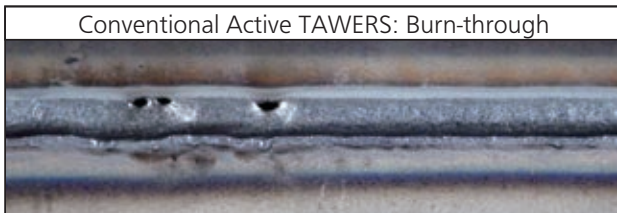
WGIII		
TS	TM	TL
800	1100	1800
950	1400	2000
	1600	
	1800	
	2000	

- TS: Through-Arm, External
- TM: Separate, Through-Arm
- TL: External

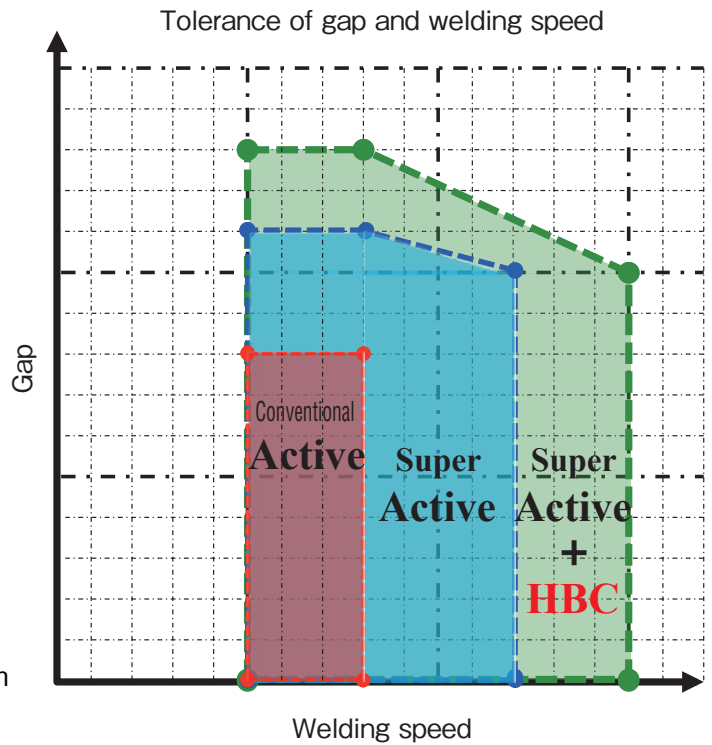
HBC process (optional) prevents burn-through in thin plate welding.

- Low heat input control greatly increases weld speed and gap tolerance.
- Capable to weld thin high-tensile steel that is prone to burn-through.

Example of high tensile steel (980 MPa)



Weld conditions: Joint: Lap Gas: MAG
 Weld current: 150 A
 Weld speed: 100 cm/min
 Plate thicknesses: 0.8 mm x 0.8 mm
 Gap: 1 mm



Hot Active Wire Feed Process (Hot-AWP)

Hot-AWP (Hot-Active Wire Feed Process)

Optional software for Active TAWERS (Hot Active Wire Feed Process) is included in S-AWP standard software (YA-1TPMV1).

Precautions for use of Super Active servo pull torch

1. Use a copper-coated pail-pack wire.
2. Set the wire cast diameter to between 1000 mm and 1200 mm.

TAWERS Zi-Tech

APPLICATION
TYPE

Zinc-Coated Steel Welding Technology

**Solution to Reduce
Spatter and Blowholes**

Zinc-Coated Steel Welding Solution Using Solid Wire!

Reduce Spatter and Blowholes with TAWERS Zi-Tech.

Super Zi-Active TAWERS Zi-Pulse

WGIII

WGIII/WGIII

TS	TM	TL
800	1100	1800
950	1400	2000
	1600	
	1800	
	2000	

TS	TM	TL
800	1100	1800
950	1400	2000
	1600	
	1800	
	2000	

- TS: Through-Arm, External
- TM: Separate or Through-Arm
- TL: External

Effective for welding zinc-coated welding. Greatly reduced spatter and blowholes!

Super Zi-Active

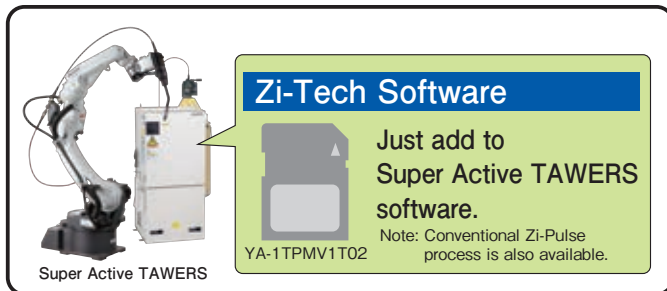
—Solution Using Super Active TAWERS

- Uses standard welding wire. (1.2 mm solid wire)
- Supports MAG welding in addition to CO₂ welding.
- Effective on a wide range of coating weight.
 - 100 % CO₂: 45 to 190 g/m²
 - 80 % argon and 20 % CO₂: 45 to 60 g/m²
 - 90 % argon and 10 % CO₂: 45 to 60 g/m²

TAWERS Zi-Pulse

—Solution Using Standard TAWERS

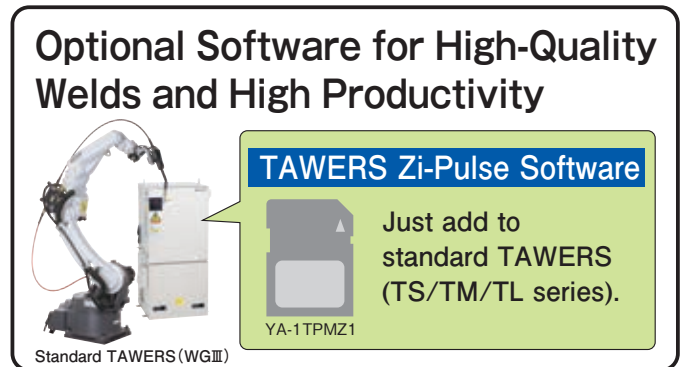
- Uses standard welding wire. (1.2 mm solid wire)
- Uses mixed gas of 90 % Argon and 10 % CO₂. (HD-Pulse Weld Process)
- Effective on a wide range of coating weight from 45 to 60 g/m².



Zi-Tech Software
Just add to Super Active TAWERS software.
Note: Conventional Zi-Pulse process is also available.

YA-1TPMV1T02

Super Active TAWERS




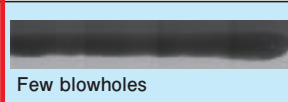


TAWERS Zi-Pulse Software
Just add to standard TAWERS (TS/TM/TL series).

YA-1TPMZ1




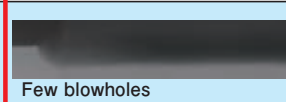
Standard TAWERS (WGIII)

75 to 95 % Spatter Reduction Compared with Conventional CO₂ Process

		Coating Weight: 190 g/m ²	
		Conventional CO ₂	Super Zi-Active
Bead Appearance		 A lot of spatter adhesion	 Little spatter adhesion
	X-Ray Image	 A lot of blowholes	 Few blowholes

Weld Conditions: •Wire: YM-50 (1.2 mm) •Joint: Lap •Gas: CO₂
•Weld Current: 250 A •Weld Speed: 80 cm/min
•Plate Thicknesses: 2.3 mm x 2.3 mm

30 to 60 % Spatter Reduction Compared with Mixed Gas of 80 % Ar+20 % CO₂

		Coating Weight: 45 g/m ²	
		80 % Argon/20 % CO ₂	90 % Argon/10 % CO ₂ (Zi-Pulse)
Bead Appearance		 A little spatter adhesion	 Little spatter adhesion
	X-Ray Image	 A lot of blowholes	 Few blowholes

Weld Conditions: •Wire: YM-50MT (1.2 mm) •Joint: Lap •Weld Current: 230 A
•Weld Speed: 80 cm/min
•Plate Thicknesses: 2.0 mm x 2.0 mm

Precautions for use of Super Active servo pull torch

1. Use a copper-coated pail-pack wire.
2. Set the wire cast diameter to between 1000 mm and 1200 mm.

Super Active TAWERS WGHIII

APPLICATION TYPE

Super Active Wire Feed Process (S-AWP)
Also Available on High Power (450 A)

NEW

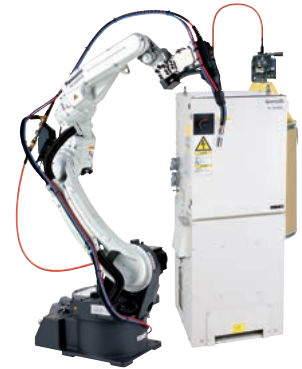
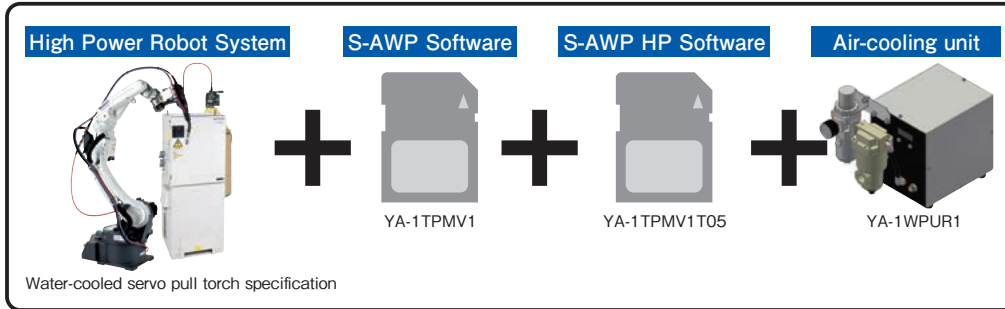
Super Active TAWERS HP

WGHIII

TS	TM	TL
800	1100	1800
950	1400	1800
	1600	
	1800	

• TS: External
• TM: Separate
• TL: External

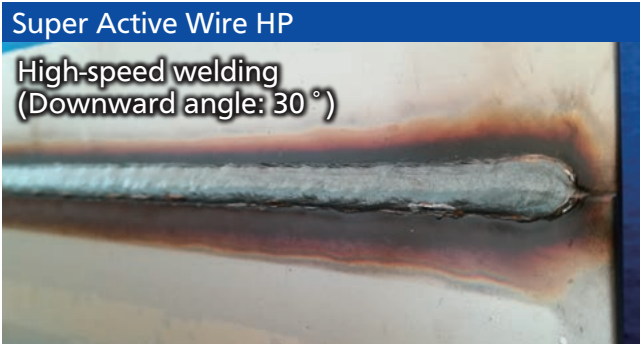
Introducing High-Power for even higher speed welding and thick plate welding



Consult us for details.

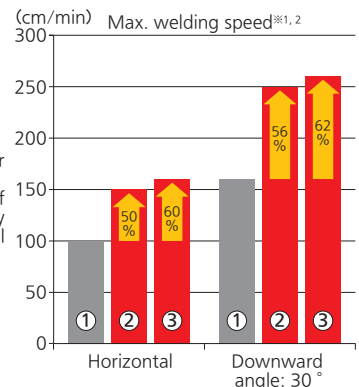
Even higher-speed welding

Min. 50 % speed increase (Compared to conventional model)



Vertical lap welding
SPCC(1.6 mm), 380 A
YM-50 (1.2 dia.), CO₂

- ① Super Active TAWERS Standard: 300 A (1.2 dia)
 - ② **NEW** Super Active TAWERS HP: 380 A (1.2 dia)
 - ③ **NEW** Super Active TAWERS HP: 400 A (1.4 dia)
- ※1 Measurements tested under our company's test environment. When you consider purchase of the equipment, check applicability of your work at our FA technical center.
- ※2 Common welding condition: Horizontal lap welding SPCC (3.2 mm), YM-50 (1.2 dia./1.4 dia.), CO₂

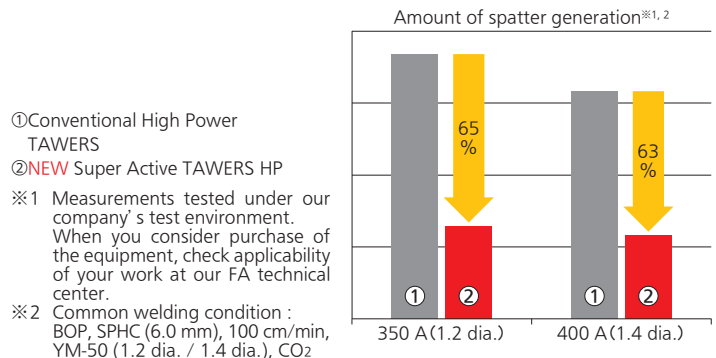


Thick Plate Welding

Min. 60 % spatter reduction (Compare to conventional model)



Flat fillet welding
YM-50(1.2 dia.), CO₂
※SUS-MIG: Applicable only to 350 A or less
MAG with S-AWP: Applicable only to 350 A or less



Precautions for use of Super Active servo pull torch

1. Use a copper-coated pail-pack wire.
2. Set the wire cast diameter to between 1000 mm and 1200 mm.