

Super Active TAWERS WGIII

APPLICATION TYPE

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

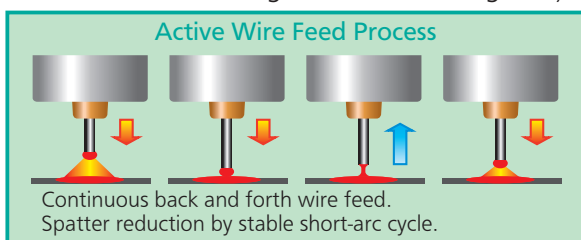
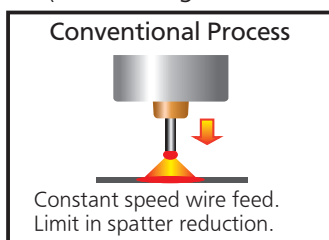
Super Active Wire Feed Process (S-AWP)

(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 !

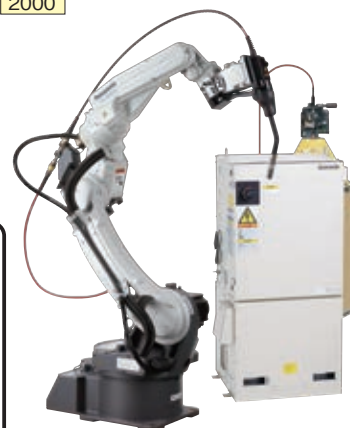
(when using 1.2 mm mild steel solid wire, CO₂ gas, and air-cooling unit)



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



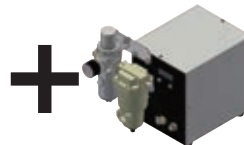
System for both high speed low spatter welding

S-AWP servo pull torch

Wire booster

S-AWP software

Air-cooling unit



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

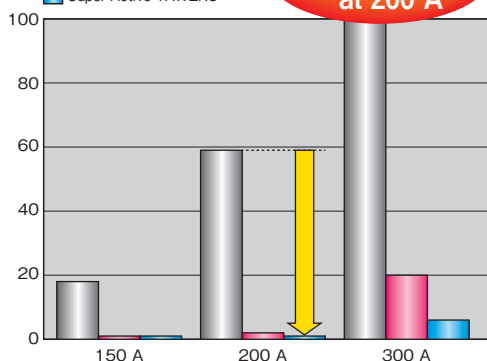


Max. 99 % spatter reduction! (compared to conventional model)

CO₂ gas welding

■ Full digital welding machine
■ Active TAWERS
■ Super Active TAWERS

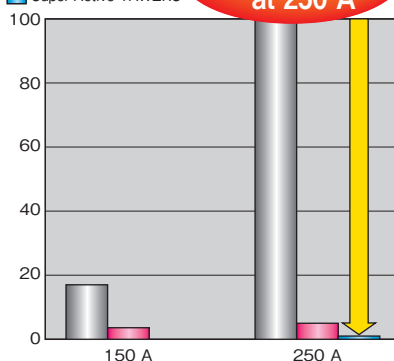
98 % reduction at 200 A



MAG welding

■ Full digital welding machine
■ Active TAWERS
■ Super Active TAWERS

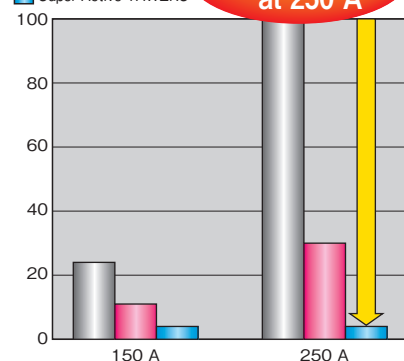
99 % reduction at 250 A



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.

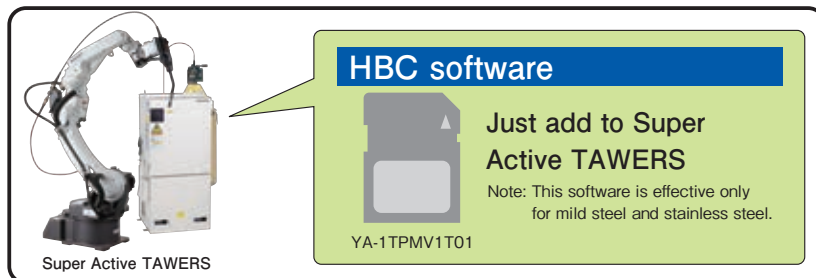
Super Active TAWERS WGIII

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.



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

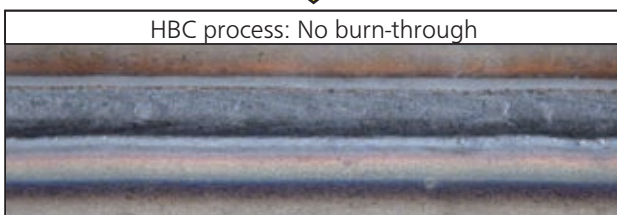
• TS: Through-Arm, External
 • TM: Separate, Through-Arm
 • TL: External



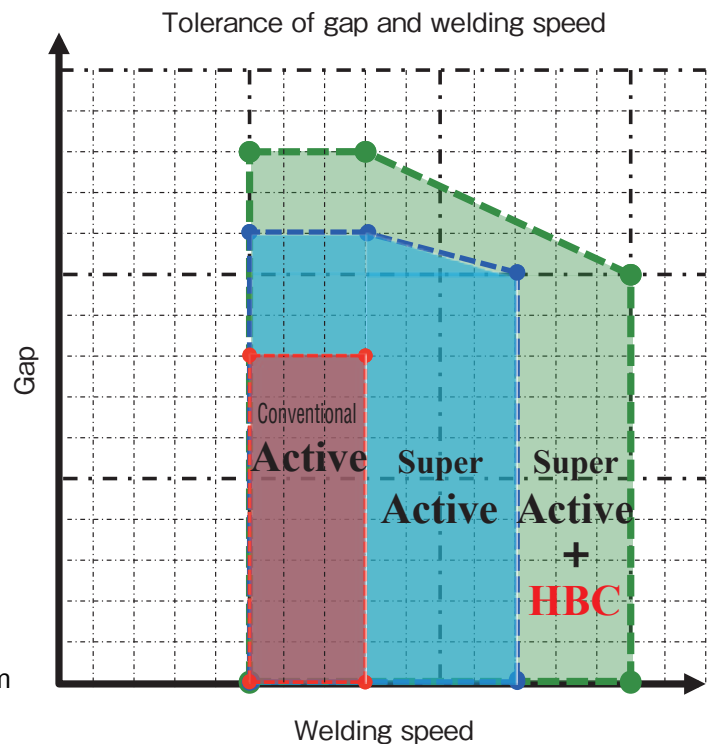
HBC process (optional) prevents burn-through in thin plate welding.

- 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.

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	

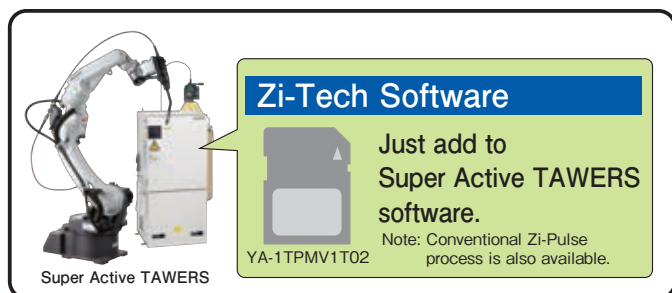
• TS: Through-Arm, External
• TM: Separate or Through-Arm
• TL: External

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

Super Zi-Active

—Solution Using Super Active TAWERS

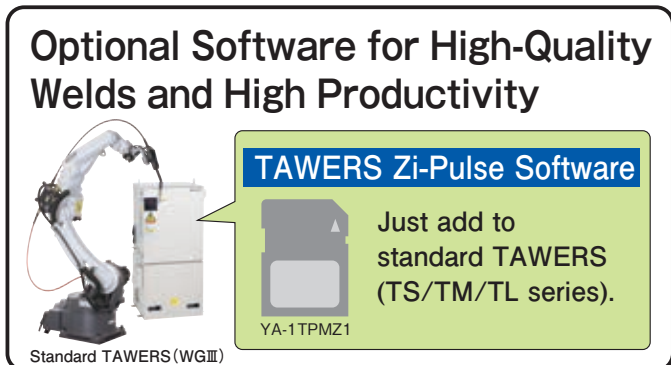
- Uses standard welding wire. (1.2 mm solid wire)
- Supports MAG welding in addition to CO₂ welding.
- Effective on a wide range of coating weight.
 - 100 % CO₂: 45 to 190 g/m²
 - 80 % argon and 20 % CO₂: 45 to 60 g/m²
 - 90 % argon and 10 % CO₂: 45 to 60 g/m²



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.



75 to 95 % Spatter Reduction Compared with Conventional CO₂ Process

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

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.

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
Bead Appearance	 A little spatter adhesion
X-Ray Image	 A lot of blowholes
	90 % Argon/10 % CO ₂ (Zi-Pulse)
Bead Appearance	 Little spatter adhesion
X-Ray Image	 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

Super Active TAWERS WGHIII

APPLICATION TYPE

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

NEW

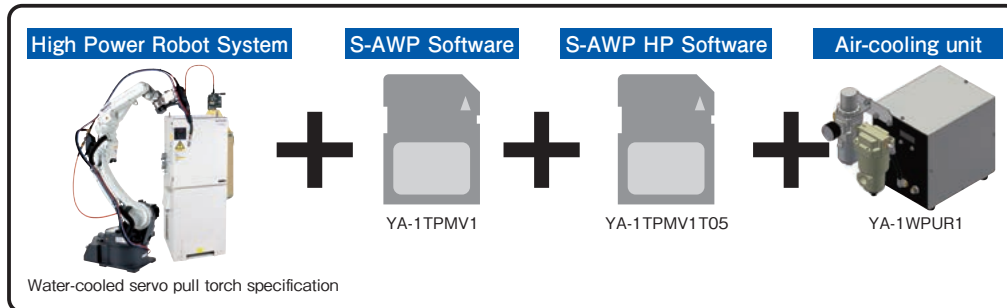
Super Active TAWERS HP

WGHIII

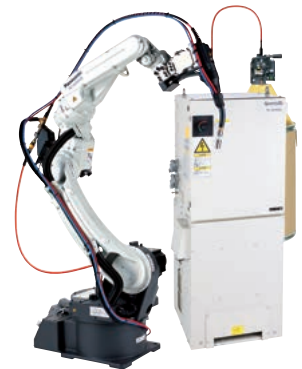
TS	TM	TL
800	1100	1800
950	1400	
	1600	
	1800	

• 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)

Super Active Wire HP

High-speed welding
(Downward angle: 30°)

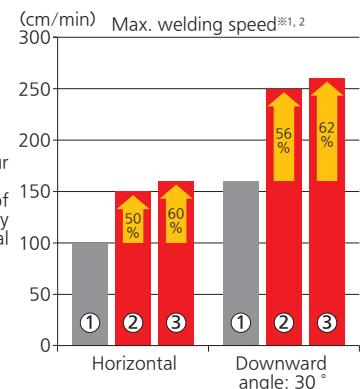


Vertical lap welding
SPCC(1.6 mm), 380 A
YM-50 (1.2 dia.), CO₂

- 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)

Super Active Wire HP thick

Low-spatter welding



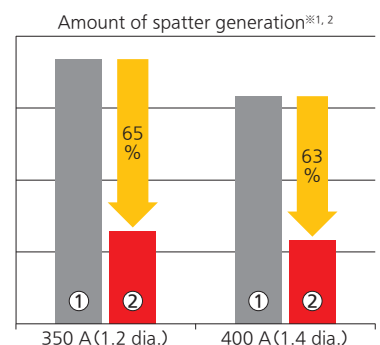
Flat fillet welding
YM-50(1.2 dia.), CO₂

※SUS-MIG: Applicable only to 350 A or less
MAG with S-AWP: Applicable only to 350 A or less

- ① Conventional High Power TAWERS
- ② **NEW** Super Active TAWERS HP

※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:
BOP, SPHC (6.0 mm), 100 cm/min,
YM-50 (1.2 dia. / 1.4 dia.), CO₂



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.