Welbee II

BETTER USABILITY FOR EVERYONE

THATS NEW!

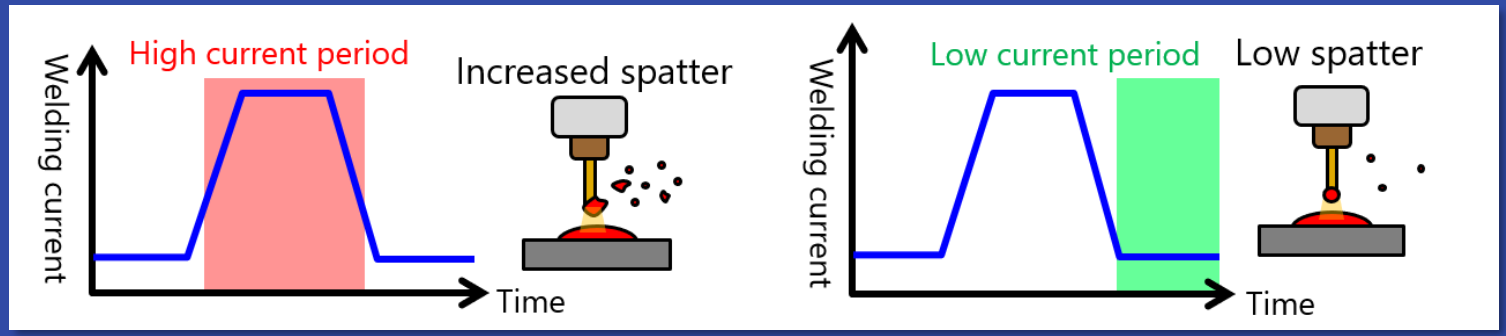
- Smart Pulse
- Low-Slag Wire mode
- Faster calibration
- Medium sheet aluminum welding
- Smart integrated LCD Panel
- Increased melting rate
- Straight polarity wire
- Multi-Function Remote Control
- New welding characteristics for stainless steel

SMART PULSE

Automatic pulse adjustment

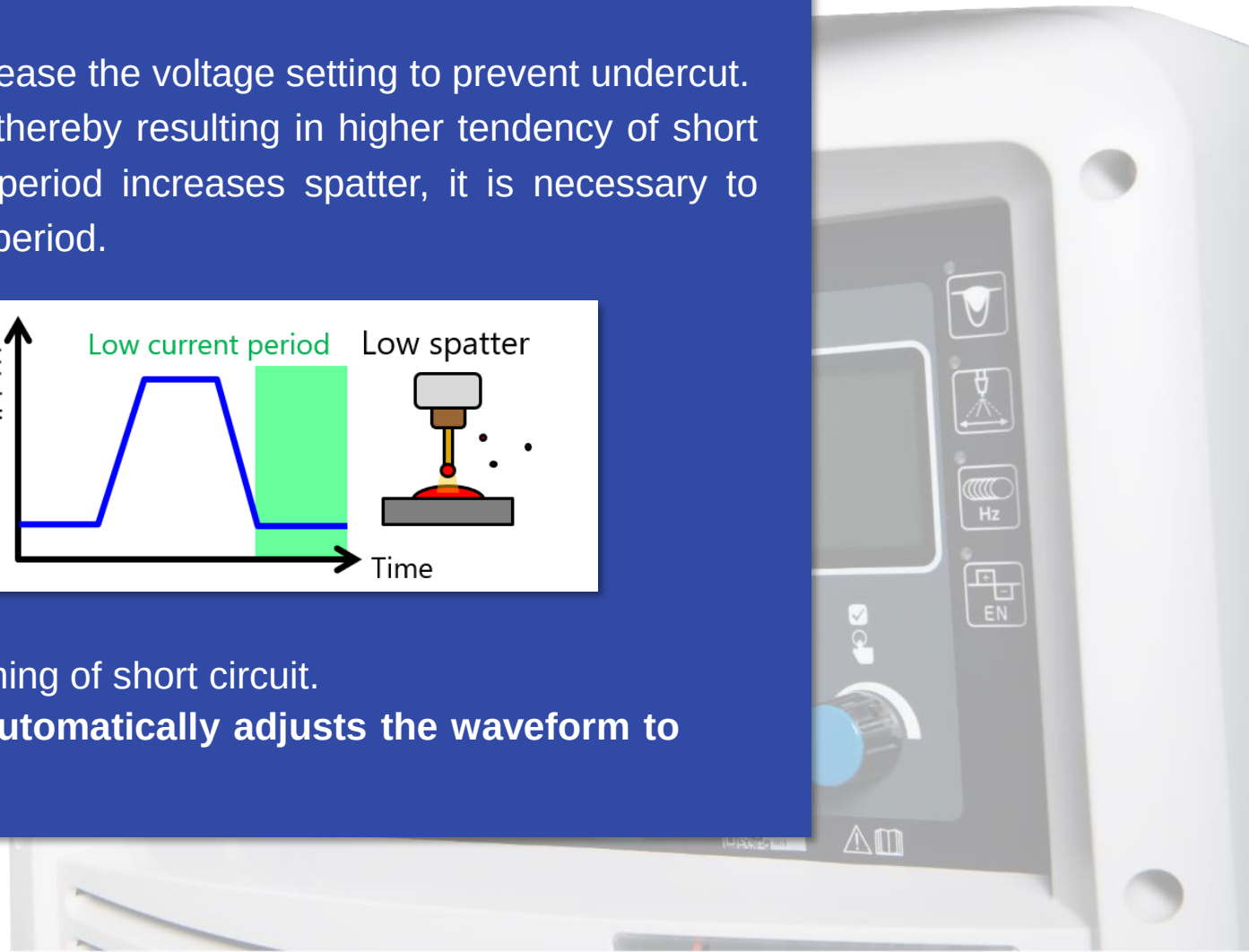
Challenges of high speed welding

Increase the travel speed → Undercut occurs → Decrease the voltage setting to prevent undercut. However, this measure causes a shorter arc length, thereby resulting in higher tendency of short circuiting. Since short-circuiting in the high current period increases spatter, it is necessary to adjust so that a short-circuit occurs in the low current period.



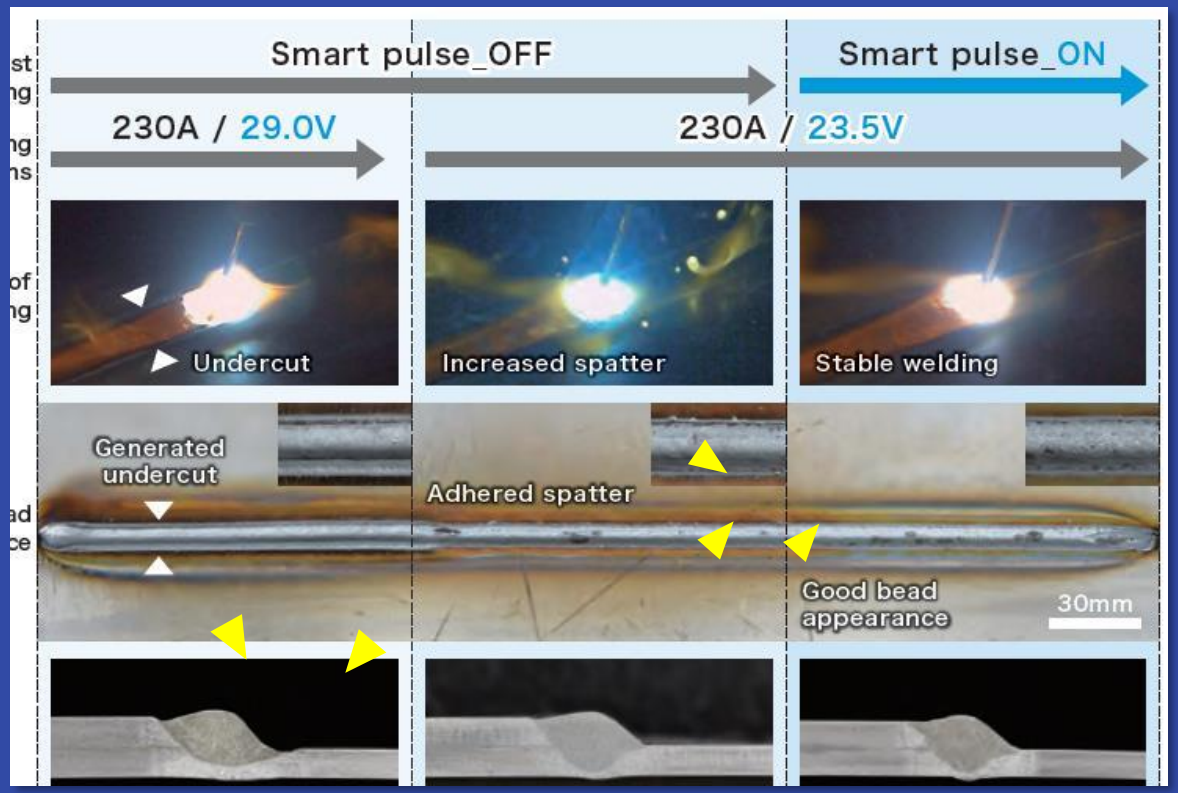
High skill and experience are required to adjust the timing of short circuit.

→ In smart pulse, The Artificial Intelligence (AI) automatically adjusts the waveform to suppress spatter occurrence.



SMART PULSE

Comparison of weld bead appearance



Details of welding conditions	
Travel speed	150cm/min
Welding mode	MAG pulse
Welding wire	G3Si1 (φ1.2)
Shielding gas	18% CO_2-AR
Base metal	Steel (1.6mmt)
Wire extension	15 mm
Push angle	10°
Torch angle	30°
Type of joint	Lap joint

By using the smart pulse in the welding condition where undercut is restricted, spatter can also be restricted.

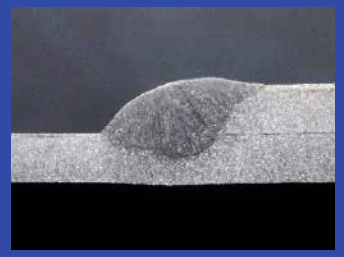
LOW-SLAG WIRE MODE

(Optional)

If the slag on a weld bead peels off after painting, the rust prevention performance will deteriorate, so a slag removal process is required before painting. Low-slag wires with low silicium content that feature less slag generation attract attention, but the stabilization during high-speed welding has been an issue.

bead meandering, undercut, and large spatter adhesion…

Low-slag wire mode



→ The dedicated waveform specialized for low-slag wires provides a stable arc even during high-speed welding, realizing efficient welding with a low-slag wire.

Welding condition　Welding wire : Low-slag wire, **Travel speed : 130cm/min,** Welding current : 270A, Welding voltage : 27.8V, Shielding gas : 18%CO_2-Ar, Base metal : Galvanized steel sheet GA 45g/m² (2.3mmt)

FASTER CALIBRATION

This mode is installed in all models and only for manual use

without Welbee II

Since the dedicated inspection device is required for calibration, it is necessary to remove the welding power source installed on the welding line and send it to OTC.

➡ This process may require you to shut down the production line.

Dedicated inspection device

Welbee II

Since calibration is possible without a dedicated device, users themselves or service personnel can visit the welding site and perform the calibration work without moving the power source.

➡ Downtime can be reduced, because you dont need to stop the production line!

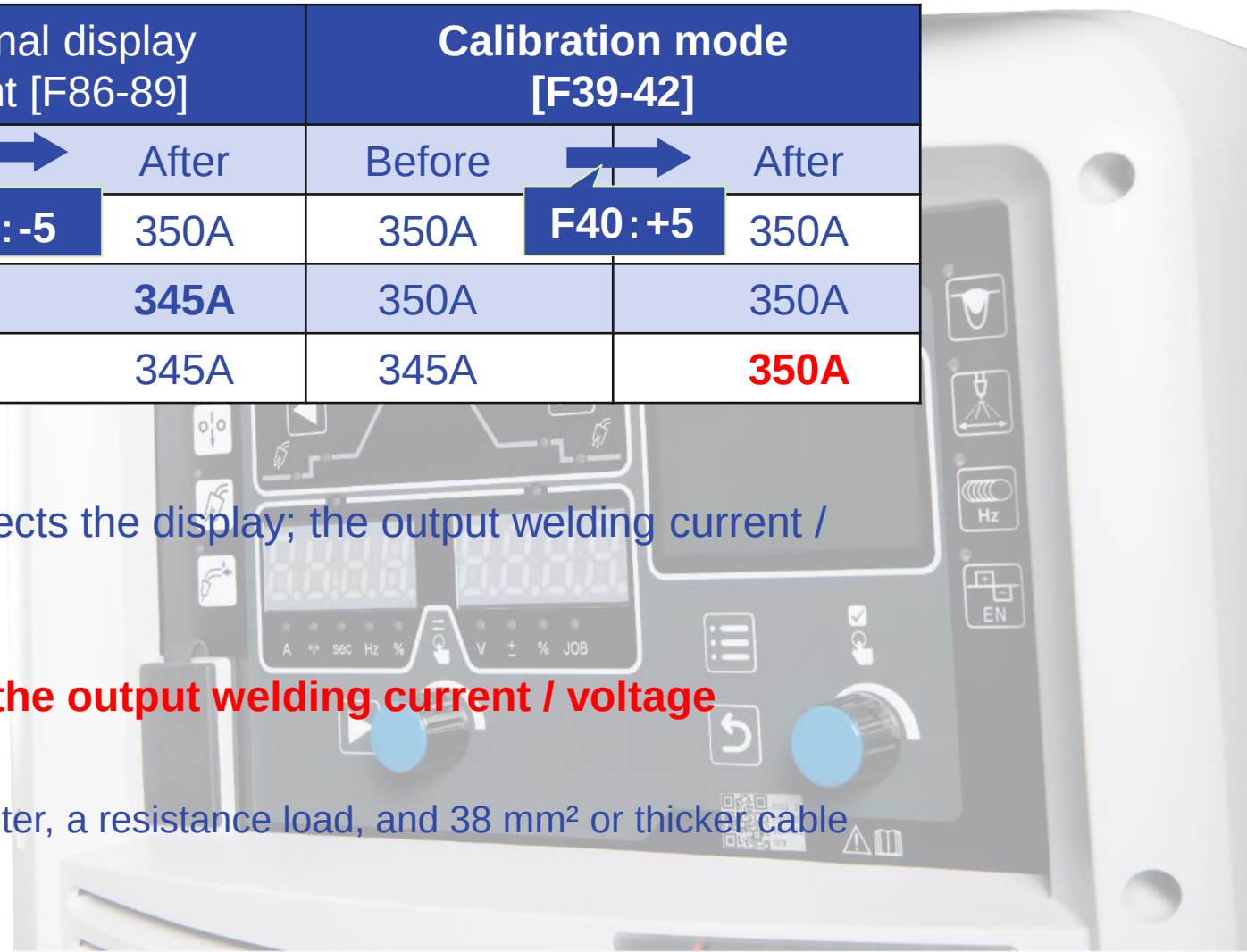
FASTER CALIBRATION

This mode is installed in all models and only for manual use

	Conventional display adjustment [F86-89]		**Calibration mode [F39-42]**	
	Before	After	Before	After
Set current	350A	350A	350A	350A
Displayed current	350A	**345A**	350A	350A
Measured current	345A	345A	345A	**350A**

F87 : -5

F40 : +5



- **Display adjustment function**
  Changing the set value only corrects the display; the output welding current / voltage does not change
- **Calibration mode**
  Changing the set value corrects **the output welding current / voltage**

Preparations Calibrated voltmeter/ammeter, a resistance load, and 38 mm² or thicker cable

MEDIUM SHEET ALUMINUM WELDING

Welbee P402

Welbee P402L

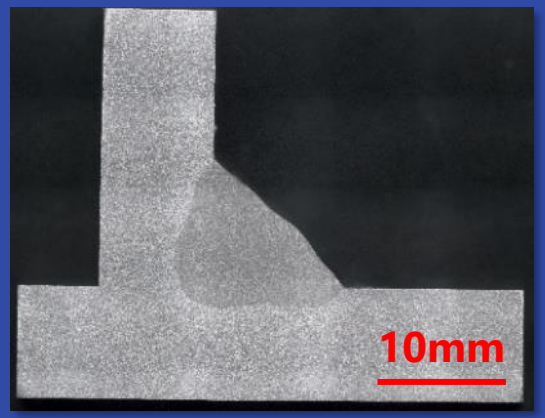
Welbee P502L

MS-MIG mode suppresses the influence of environmental effects such as heat and humidity in the medium and high current ranges. It achieves a stable arc with constant welding current and arc length.
MS-MIG (=meso spray arc) is a process between short arc and spray arc.

It results in a beautiful weld bead with uniform penetration and good alignment

Applicable wire: Hard aluminum wire with a diameter of 1.6 mm only.
The recommended current value for this mode is 230 to 300A.
It is recommended to use pulse welding for currents below 200A

Bead appearance

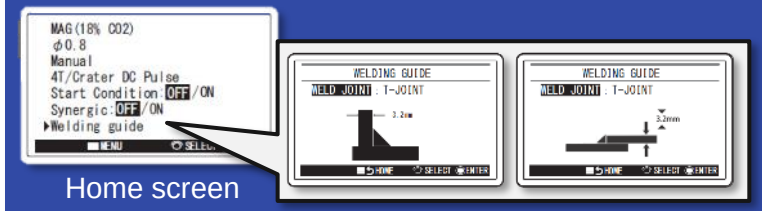


Weld cross-section

Welding conditions
Welding current：280A
Travel Speed：40cm/min
Plate thickness：10mmt
Welding wire：AlMg5 (φ1.6mm)

SMART INTEGRATED LCD PANEL

Welding Guide Function



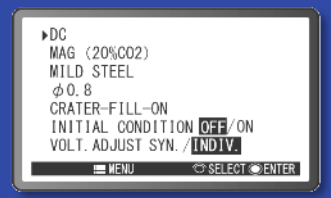
Home screen

WELDING GUIDE screen

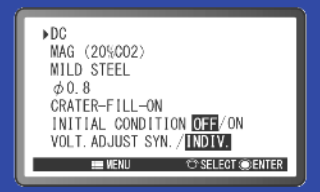
By simply selecting the type of welding joint and plate thickness, the optimum welding current and arc voltage are **set automatically**

6 different languages are integrated

- **English**
- **German**
- **Italian**
- **Spanish**
- **Polish**
- **French**

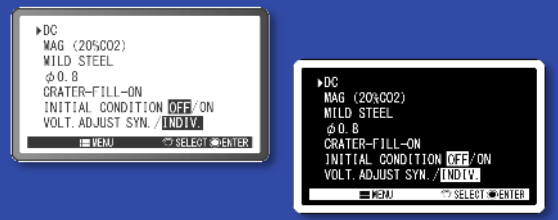


Home screen with summarized welding conditions

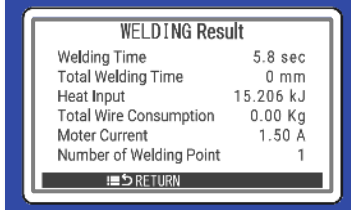


- Bright and large current/voltage display achieves high visibility at any visual angle
- Welding mode setting completely on the LCD panel

Selection of background color



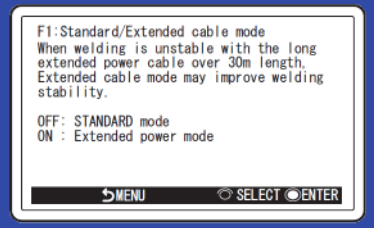
Automatic display of welding results



- Such records as arc time, wire consumption, and heat input are automatically displayed at the end of the welding process

➢ Usable for management of maintenance time and wire replacement

Detailed display of functions and errors

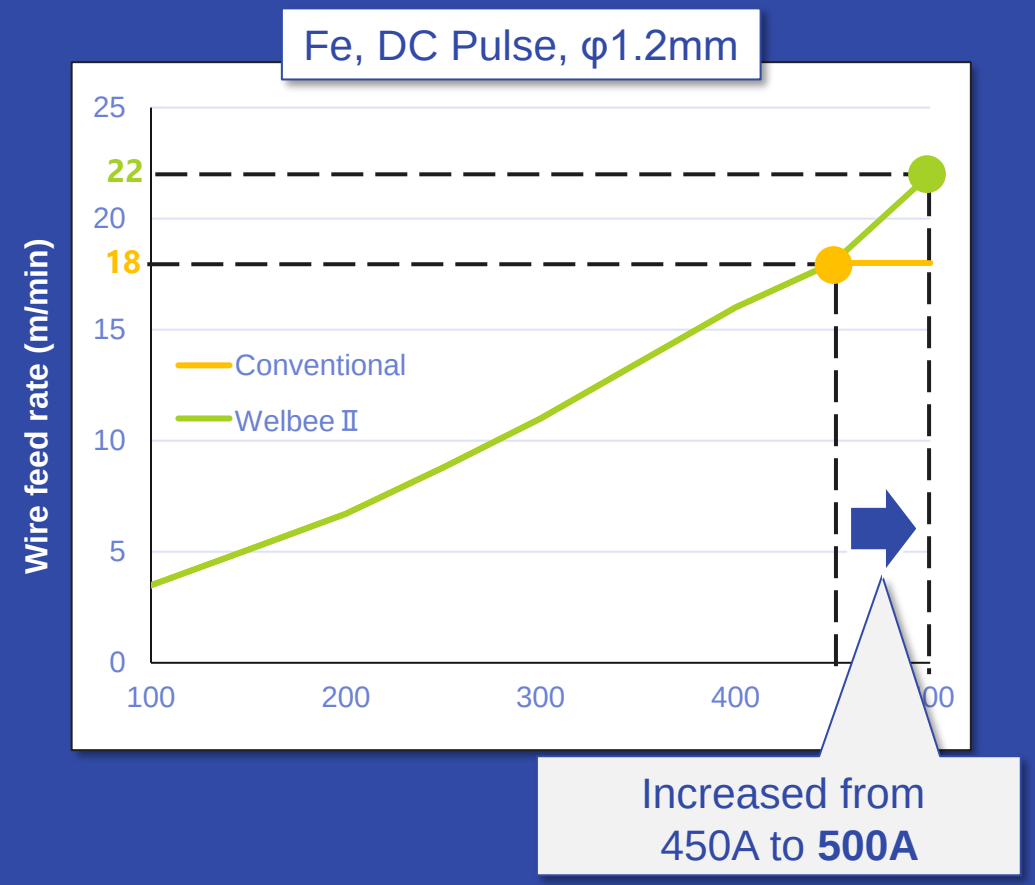


- Display of equipped functions and countermeasures against problems

➢ Solving problems without using an instruction manual

Current/voltage display with excellent visibility

INCREASED MELTING RATE

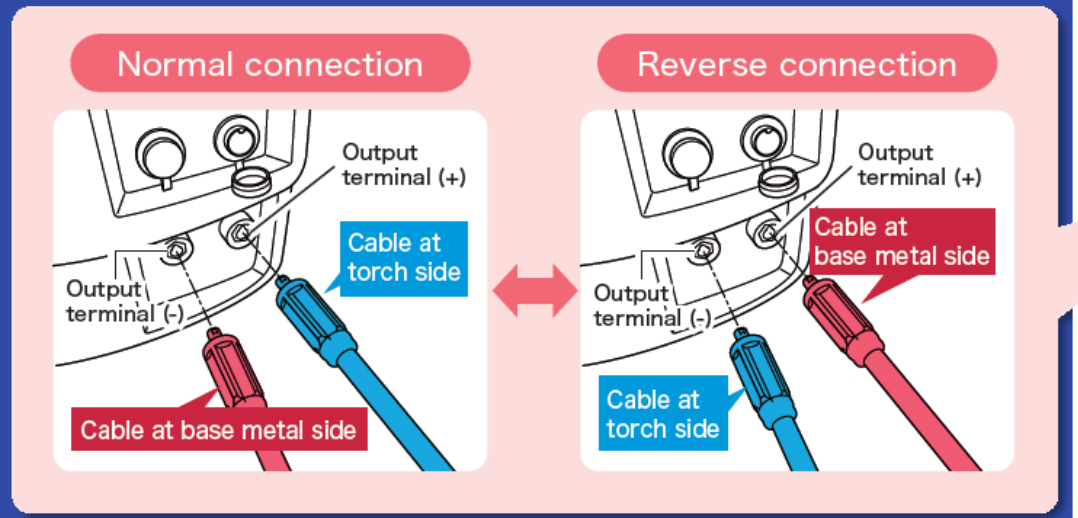


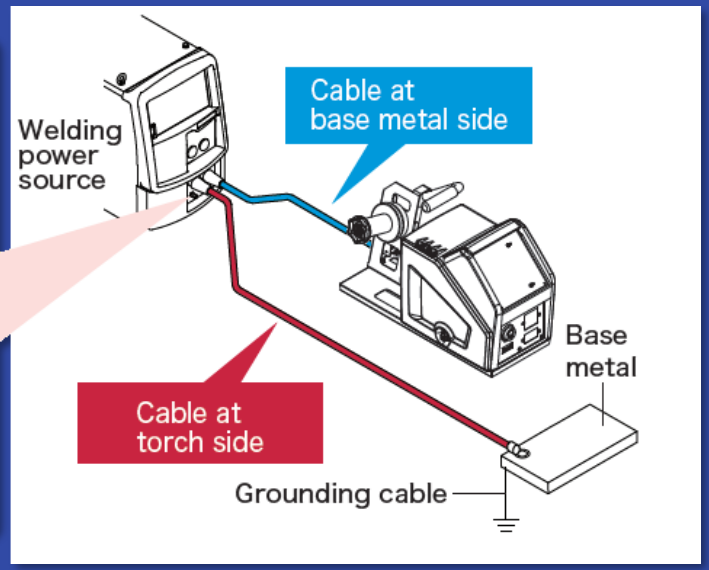
- The upper limit of wire feeding speed has been increased from 18 to 22 m/min
- Even with the same wire diameter, it can be used with a higher current value

DC Pulse φ1.2mm

	18 m/min	**22** m/min
CrNi (2.5%CO2)	400A	**475A**
Cr 18 (2.5%CO2)	400A	**425A**
CrNi (2% O2)	400A	**450A**
Cr 18 (2% O2)	400A	**475A**

STRAIGHT POLARITY WIRE CAN BE USED



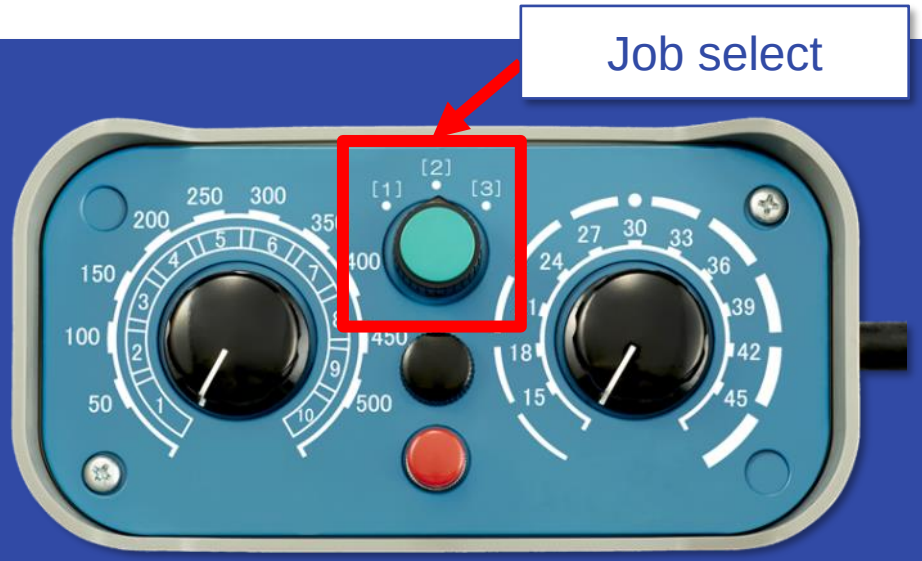


- Welding with the electrode negative polarity is possible simply by setting the function and changing the cable connection.
- Such a straight polarity (DCEN*) wire as used in welding galvanized steel sheets can easily be used as well.

*electrode negative polarity

MULTI-FUNCTION REMOTE CONTROL

This mode is available for all models and only for manual use

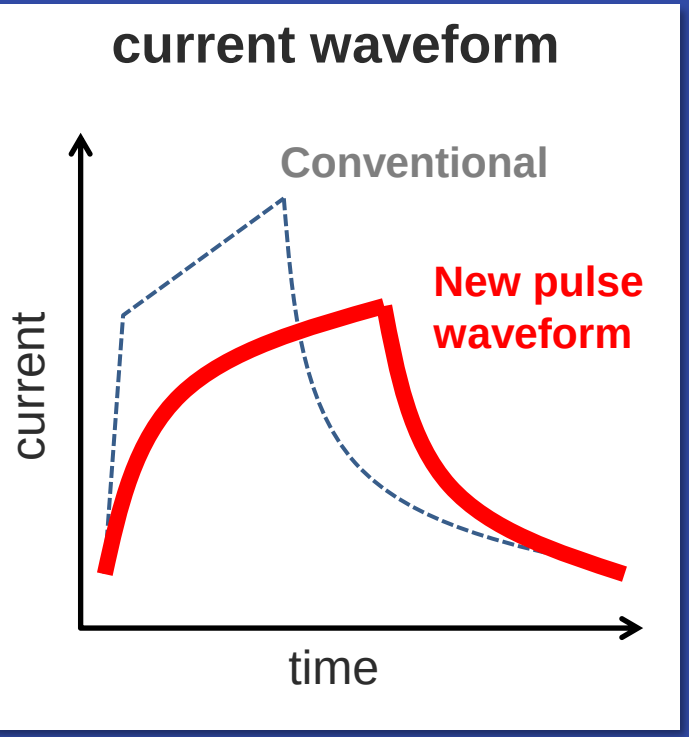


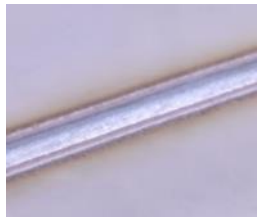
Functions can be assigned to the job select of analog remote control, enabling various operations at hand.

List of assignable functions

F 2	Function		Job select		
			[1]	[2]	[3]
1	Crater setting		2T	4T/Crater DC	4T/Crater DC Pulse
2	Gas check		OFF	OFF	ON
3	Constant penetration		OFF	OFF	ON
4	Tack start		OFF	OFF	ON
5	Reading welding JOB		OFF	OFF	ON
6	Welding process	P402L P502L	DC low spatter	DC Pulse	DC
		P402 P322E P402E P452E	DC Pulse	DC wave pulse	DC

NEW WELDING CHARACTERISTICS FOR STAINLESS



Bead appearance	Bead cross section	Welding conditions
		Base metal (thickness):SUS 304(2.0 mm) Wire (diameter):SUS 308(1.2 mm) Joint: T-fillet Set current/voltage: 150A/20.5V Welding speed: 70 cm/min Attitude: Horizontal, foreward angle: 5° torch angle: 40°
		Base metal (thickness):SUS 304(1.0 mm) Wire (diameter):SUS 308(1.2 mm) Joint: Lap Set current/voltage: 150A/20,3 V Welding speed: 120 cm/min Attitude: downwoard 40°foreward angle:5° Torch angle 10°

WELBEE II LINEUP




Welding Process	Welbee P402L Welbee P502L	Welbee P402	Welbee P452E Welbee P402E	Welbee P322E
Low Spatter (CBT EX)	✓1,2,3,4,5,6			
Penetration Control	✓1,2	✓1,2	✓1,2	✓1,2
DC Wave Pulse	✓1,2,3,4,5,6	✓1,2,3,4,5,6	✓1,2,4,5,6	✓1,2
Standard Pulse	✓1,2,3,4	✓1,2,3,4	✓1,2,4	✓1,2
DC Stick*	✓1,2	✓1,2	✓1,2	✓1,2
DC TIG (touch start)*	✓2	✓2	✓2	✓2
MS-MIG (Meso Spray Arc)	✓3	✓3		
Low Slag Wire	✓1	✓1	✓1	✓1
Smart Pulse	✓1	✓1	✓1	✓1

1 Mild steel

2 Stainless steel

3 Aluminum

4 Brazing

5 Inconel

6 Titanium

***only for manual usage**

Welbee II

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