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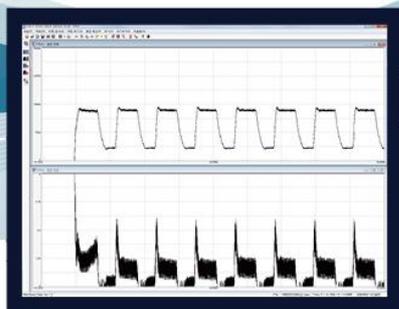
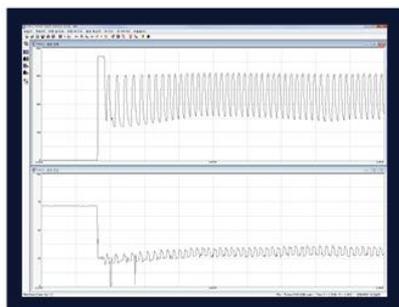
# Welding waveform analysis management equipment

Model

WEM-7000

Welding Expert MULTI

Patent No.10-1390385· 10-0561087



Monitech co.,Ltd.  
www.monitech.co.kr

## Main Features

- Real-time waveform analysis of ARC / RESISTANCE / SAW / TIG / PLASMA welding
- Proprietary S/W for waveform analysis (Stretch and Shrink, various calculation, analysis and comparison of waveform, etc.)
- 15" LCD and industrial embedded PC are built in a briefcase to enhance portability
- Various output ports (4 USB ports, 1 LAN port and 1 RGB port)
- Waveform sampling maximum 200ks/s



## Main Purposes

- Essential equipment for welding related research and process improvement (This is a basic equipment being used in most of large companies, research institutes, universities, etc.)
- S/W installed exclusively for collection and analysis of various welding result waveforms
- The best solution to identify problems in welding process and improvement status (6 sigma management, etc.)
- Used as a standard internal calibration instrument for welding machine and various gauges
- Continuous free S/W update is provided
- In case of research purpose, various combinations of measurement channels are available (Max. 8 channels)

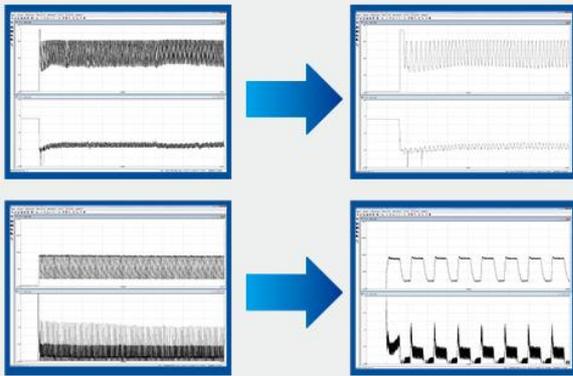
## Specification

	ARC/SAW	RESISTANCE	TIG / PLASMA
Model Name	WEM-7000		
Size(mm)	460(W) X 325(D) X 170(H)		
Weight(kg)	About. 8Kg		
Power	AC 100/220V, 50/60Hz (Free Voltage)		
Measurement channel	Current, voltage, feeding speed, etc.	Current, voltage, force, etc	Current, voltage, feeding speed, etc.
Current range	Max 2,000A (AC&DC)	Max 200kA (AC, DC& Inverter DC)	Max 2,000kA (AC & DC)
Voltage range	Max. 100V (200V is also available)	Max. 10V (20V is also available)	Max. 10V (20V is also available)
Feeding speed	Max. 2,800CPM	-	Max. 2,800CPM
Force	-	Max. 1 Ton (10kgf,30kgf,100kgf,1Ton)	-
Others	Combinations of ARC+ RESISTANCE+TIG(PLASMA) are available in a machine <ul style="list-style-type: none"> <li>● ARC + RESISTANCE    ● ARC + TIG(PLASMA)</li> <li>● SPOT + TIG(PLASMA)    ● ARC + RESISTANCE + TIG(PLASMA)</li> </ul> Interlink with a high speed camera is available (optional)		

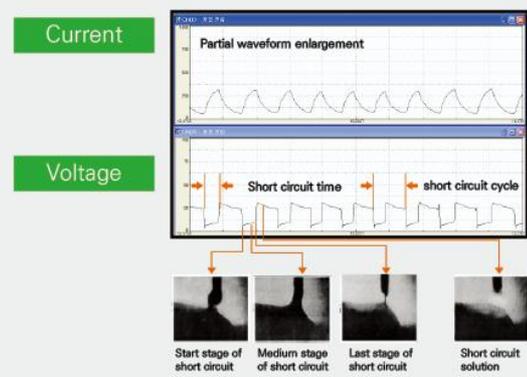
# Examples of Software Functions

- Evaluation of overall performance of welding machines
- Evaluation of usability of welding materials
- Evaluation of ARC stability during welding
- Evaluation of feedability of welding wires
- Evaluation of characteristics of ARC Start
- Evaluation of pulse waveform during pulse welding
- Automatic calculation of the number of normal short-circuit and abnormal short circuit
- Automatic creation of dynamic resistance graph of resistance welding
- Real-time force change of resistance welding (optional)
- 4 types of measuring method and Autozero function
- Size Stretch & Shrink analysis and comparison of waveform
- Continuous measurement for a long time (related to the number of sampling units)
- Various built-in functions including texting and converting measured values to EXCEL format

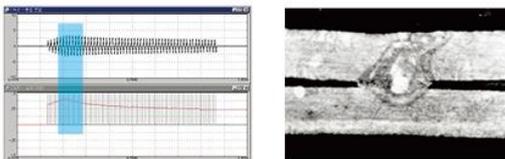
## Examples of enlargement of ARC/ RESISTANCE waveform



## Short circuit transfer waveform of ARC welding

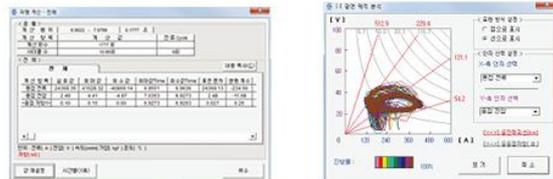


- Waveform generating spatter in resistance welding



➔ spatter generation due to the increase of dynamic resistance peak value

- Waveform calculation by section
- Current and voltage distribution curve



# Main Clients

- Heavy Industry  
POSCO Research Institute, Samsung Heavy Industries, Hyundai Heavy Industries, Hyundai Steel, Dongkuk Steel, Volvo, Hanjin Heavy Industries and Construction, Doosan Infracore, STX Offshore and Shipbuilding, Daewoo Shipbuilding & Marine Engineering, Sungdong Shipbuilding and Marine Engineering, etc.
- Automobile · Battery  
Hyundai Motor, Kia Motors, Sejong Industrial, Hwashin, Dong Wha Industrial, LG Electronics, Samsung Electronics, Nexcon Technology, Power Logics, Teckraf, SKME, Samsung SDI (Vietnam Plant), etc.
- Institutes · Universities  
Korea Institute of Industrial Technology, RIST, Pukyong National University, Hanyang University, Yonsei University, Chonnam University, Chonbuk University, Korea Polytechnics, POSTECH, Dong-Eui University, Korea Aerospace University, Korea Electrotechnology Research Institute, Institute for Advanced Engineering, etc.
- Welding materials · Welding machines  
KISWEL, Chosun Welding, SeAH ESAB, Korea Weldtech, Korea KOBE Welding, Hyosung Power & Industrial Systems, Maeil Precision Machinery, Easywel, etc.

## Real-time welding quality control and inspection solution

### Real-time welding monitoring system

01. Welding quality monitoring system (ARC/SPOT/TIG)
02. Intelligent welding monitoring system (NUT & BOLT Projection welding)
03. Welding calibration master equipment (ARC/SPOT/DUO)
04. MICRO SPOT welding monitoring system
05. High speed thermal imaging welding monitoring system
06. Ultrasonic welding monitoring system
07. Laser welding monitoring system

### Welding process measurement and equipment

08. Welding force measuring gauge (FORCE)
09. Current and force gauge (HANDY)
10. Advanced current and force gauge (HANDY PRO)
11. Measuring analyzing equipment for WPS/PQR (WPS)
12. Welding waveform analysis management equipment (MULTI)

### Inspection and integrated monitoring S/W

13. Integrated management and control system (MIS)
14. Inspection record computerized management system for the Initial, middle, and final products (IM)



ISO 9001 / ISO 14001 / INNOBIZ / Venture

#### Head office / R&D Center

92, Saebyeoksijang-ro, Sasang-gu, Busan,  
46987, KOREA  
Tel. +82-51-311-8691  
Fax. + 82-51-311-8692  
E-mail. monitech01@naver.com  
Homepage www.monitech.co.kr  
Blog. <http://blog.naver.com/yuria85>

#### Seoul branch / R&D Center

304, Sanjeong building  
23, Gukhoe-daero 66-gil,  
Yeongdeungpo-gu, Seoul,  
07237, KOREA  
Tel. +82-2-780-8691  
Fax. +82-0303-0953-0954  
E-mail. monitech2@naver.com