Daihen welding technology,
Creating your manufacturing of the future!
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Business meeting space
**Active in various fields!**

The extensive lineup of 10 models in total contributes to quality improvement of manufacturing and cost reduction.

- Difficult thin plate welding and gap welding enabled  
  WB-W350
- Anybody can realize one rank improved welding quality  
  WB-M350/M500
- Reduction of spatter by 80% at the maximum thanks to CO2/MAG welding  
  WB-M350L
- Cost reduction of the welding process by pulse welding  
  WB-P350/P500L
- Reduction of welding time by 80% owing to the key hole welding  
  WB-F300P
- A single Welbee for a wide range of applications from thin plates to thick plates  
  WB-T500P
- Wind-resistant self shield welding function equipped  
  WB-M500GS
- Gouging is available in addition to high performance welding  
  WB-M500G

**Faster, Slimmer, More Durable Evolution in every performance!**

- **Faster**  
  The maximum speed of each axis has increased by 15%. The industry’s top motion speed is applied to drastically reduce task time.
- **Slimmer**  
  The wrist motor and the arm are built inside to avoid interference with the jig or the workpiece. Optimal welding posture can be achieved even for narrow spaces.
- **More Durable**  
  The number of built-in cables has been increased to 24, which is the largest number in the industry. All cables are protectively stored for even high end processes such as synchro-feed welding. No cables at the back of the arm to interfere with surroundings.
- **Lightweight**  
  The body weight is 144 kg, which is the industry’s lightest weight. Equipment installation costs for ceiling-type and wall-type systems have been reduced.
- **More Powerful**  
  The payload capacity is 6 kg, which is 1.5 times that of conventional models. Various torches and sensors are mountable to expand the scope of application.
Products Line-up

Reduction of welding time by up to 80%

Thick plate high efficiency welding system D-Arc Welding

- Reduction of welding time by 80% by one pass welding
  (For plate thickness 19 mm butt weld, welding length: 1 m)
  One pass welding of thick plates realized by newly
  developed high current welding process D-Arc.

- Drastic reduction of groove processing time
  One pass welding leads to less groove processing,
  resulting in processing cost reduction.

- Significant wire consumption reduction
  Realize reduction of wire consumption by 70% due to
  edge preparation space reduction.

- Applications
  Thick plate welding users for steel frames, bridge, ship
  building, plant piping, etc.

- Groove processing area 70% reduction!

Automated difficult thin aluminum welding

High quality aluminum welding system

- Automated welding is enabled without melting thin plate.
  This system enables stable automatic welding by
  AC pulse heat input control, so realizing difficult
  welding that used to be enabled by only skilled
  workers.

- Real-time automatic correction of welding
  conditions and torch positions
  New laser sensors detect target misalignment and
  gap changes that occur during welding and
  correct them automatically.
  Stable high quality welding realized

- Applications
  Aluminum frames of rail cars and automobiles, etc.

Reduction of spatter by up to 98%

Ultra-low spatter welding system Synchro-feed welding

- Challenging the limit of low spatter
  Ultra-low spatter is realized by current waveform
  control of the super high speed wire feed system
  and Welbee.

- Optimized for welding of medium thick plates
  Both sufficient weld penetration and Ultra-low spatter
  are achieved in the 300 A current range. Realize a
  100% use rate using 300 A for continuous high quali-
  ty welding .

- Expanded range of applicable materials
  For car body parts, and galvanized steel plates
  used for construction
  For exhaust parts, and stainless steel plates
  used in chemical plants

- Applications
  Automobiles, bicycles, steel frames, construction
  equipment, chemical plants, etc.

Small lot production of many products at a low cost

Flexible intelligent welding system

- Small lot production of many products at a low cost
  No need to change jigs for each workpiece be-
  cause of coordinated motions of the handling robot
  and the welding robot.
  This contributes the drastic reduction of setup time.

- Reduction of hand working
  The robot picks up randomly arranged work-
  pieces using vision sensors.
  Work setting that used to be dependent on
  hand working has been automated.

- Space saving
  The flexible seven-axis robot enables both opti-
  mal welding posture and high density installa-
  tion.

- Automatic correction by laser sensor

- Vision sensor
**Products Line-up**

**Improved quality by the world’s best high tracking accuracy**

**High accuracy robot laser processing system**

- **World’s best high accuracy robot**
  Straight line tracking accuracy and circular tracking accuracy have been drastically improved in a wide range. Circles smaller than φ10 mm are precisely attainable.

- **Drastic equipment cost reduction**
  Thanks to this high accuracy robot, capital equipment costs are drastically reduced compared with those of expensive three dimensional laser processing machines.

- **Applications**
  (Precise processing such as laser welding/cutting, TIG welding, and plasma welding)
  - Automotive High-strength steel
  - Stainless steel exhaust parts
  - Heat exchanger piping, metallic furniture, gas piping, air conditioners, etc.

**Reduction of welding time by 80% or more owing to no need of groove processing**

**High-efficiency plasma welding system**

- **One pass welding is enabled even when there is no groove processing.**
  Welding time is reduced by 80% or more. (Comparison of weld penetration depth for square butt weld, stainless steel 9 mm)
  Keyhole penetration by concentrated plasma arc. One pass welding is enabled.
  For medium thick plates, welding time will be drastically reduced compared with multi-layer welding by TIG.

- **High speed thin plate welding is enabled.**
  Combination with the automatic vertical welding system realizes high speed and high quality welding.

- **Applications**
  Exhaust parts of automobiles, pipe manufacturing, large tanks, etc.

**Cooperation between people and information**

**Near future standard!**

**New communication technology welder FRExGO series**

- **Easy to carry and operate the feed system**
  Owing to the Dconnect (power line communication) technology, no need to use the control cable that weights 25 kg per 50 m
  Work load for carrying the feed system is less, so reducing the load of workers.

- **Large capacity communication is enabled between the feed system and the welding power source without the control cable.**
  You can set this condition, crater conditions and select crater ON or OFF using a remote controller. So, you do not need to move to the welding power source for condition setting.
  Furthermore, if you use a digital remote controller, you can use the welding condition memory function and the welding condition control function, which will contribute to quality control. Off course, there is no need to add control cables.

- **Applications**
  Large size structures such as ship building and cylinder manufacturing, etc.

**Good for outdoor welding and plated sheet steel welding**

**Self shield welding Webbe series “WB-M500GS”**

- **Welding defects will be prevented.**
  This welding causes less welding defects than CO2 welding under the windy environment.
  Welding is very efficient because the welding time is about half of manual welding.

- **High quality galvanized steel plate welding realized**
  In welding of galvanized steel plates, it generates less blow holes, thus improving welding quality.

- **Applications**
  Steel pipe piles, outdoor construction sites, pipe lines, poling boards, light-gauge steels, etc.
Products Line-up

New torch makes welding fun.

New CO2/MAG/MIG welding torch Blue torch III

- Easy-to-grip, no fatigue
  Easy to weld because of the ergonomically easy-to-grip handle and the optimal torch shape based on the digital motion analysis during welding.

- Heat protection
  Heat transmitted to the worker is drastically reduced by reducing the contact area between the heat generating conductor and the handle resin. User friendly design includes heat protection

- Easily customized by the split handle structure
  Gun handle type and long trigger type are available for easy handling with changing tool free

Easy handling, rugged design and user friendly!

New wire feeder

- Transportability of the feed system improved
  Good balance and easy-to-grip
  Excellent transportability realized thanks to the handle grip

- Improved durability and toughness
  Excellent durability thanks to the high-strength frame structure
  Excellent dustproof and waterproof structure (for IP23)

- Easily replaceable consumable parts
  Parts such as the feed roll are replaceable without any tools.

Quality control by cooperation on the network

IoT welding quality control area NETWELDER series

You can control welders and robots intensively in the plant. You can control welding including the control of operation state, prevention of defects, preventive maintenance, etc.

- Batch control of multiple welders and robots.
  You can collect, record, and batch control the operation state of welders and robots.

- Welder information is monitored at hand.
  Welders are operated at hand by wirelessly connecting them with a tablet PC.

- Detection of welding failures, which contributes to the prevention of outflow of defective products
  This system compares current and voltage change patterns during welding with their normal values to detect welding failures. It monitors various welding data in the long term to forecast timing to cause welding failures.

Conveyor revolution! Achieving 24-hour movement

Wireless power feed system for AGV

- Perfect automation of transportation lines
  Workers do not need to spend time for "charging" and "rechargeable battery replacement." Reduces labor cost and provides high productivity.

- Effective use of plant space
  No charging space is required because transporters are charged on the production lines. The plant space is effectively used.

- Maintenance-free environment realized
  No risk of causing defects due to wear of parts (charging cables, connectors, etc.), dirt contamination, etc.

- Safety improved
  No risk of electric shock or spark accidents since workers do not need to contact transporters during charging.
Daihen welding technology, Creating your manufacturing of the future!

DAIHEN Corporation
Booth Guide

http://www.daihen.co.jp/

Japan International Welding Show 2016