



## COMPANY PROFILE & PRODUCT LINE



### OTC DAIHEN Asia Co.,Ltd.

**Head Office & Factory** 60/86 Mu 19, Navanakorn Industrial Estate Phase 3,  
Klong Nueng, Klong Luang, Pathumthani 12120, Thailand.  
TEL : (+66) 2529-2130-1,(+66) 2529-3335-7  
FAX : (+66) 2529-2132  
E-mail : [otcda@otc.co.th](mailto:otcda@otc.co.th)  
<http://www.otcdaihenasia.com>

**Bangkok  
Sales Office** 23/43. FL.16th Sorachai Bldg., 23 Soi Sukhumvit 63,  
Klongtonnua, Wattana, Bangkok 10110, Thailand.  
TEL : (+66) 2714-3201(Auto 5 Lines)  
FAX : (+66) 2714-3204  
E-mail : [otcda@otc.co.th](mailto:otcda@otc.co.th)

**Rayong  
(Eastern Seaboard)  
Branch** 500/141 Hemaraj Eastern Seaboard Industrial Estates, Moo 3,  
Tambol Tasit, Amphur Pluakdaeng Rayong 21140, Thailand.  
TEL : (+66) 63 237-7970

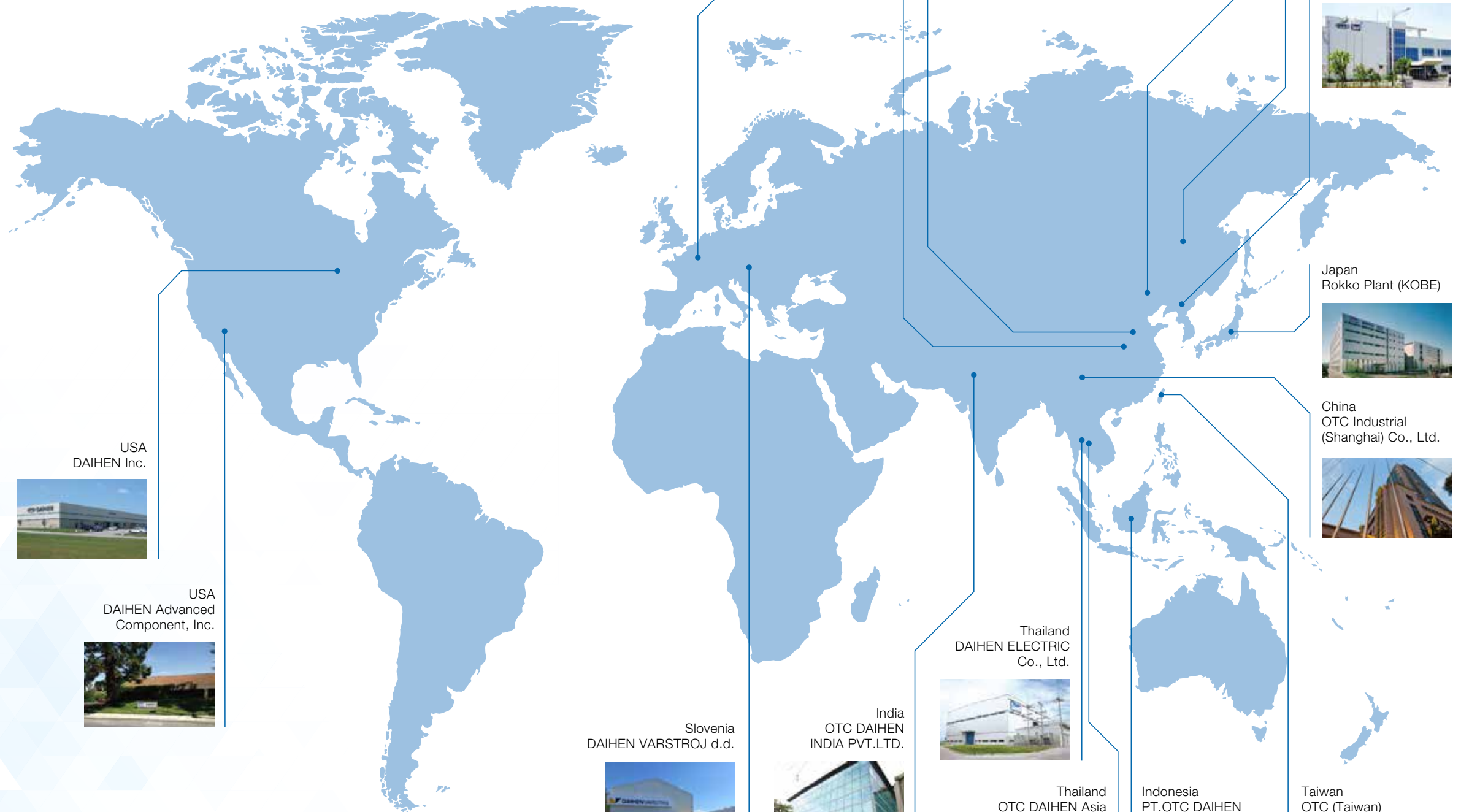
**Malaysia  
Representative Office** E-3-23 , IOI Boulevard, Jalan Kenari 5,  
Bandar Puchong Jaya, 47100 Puchong Selangor D.E., Malaysia  
TEL : +603 8070 3160  
FAX : +603 8080 3710

OTC DAIHEN Asia Co.,Ltd.

# A LEADING GLOBAL COMPANY IN THE FIELD OF WELDING TECHNOLOGY AND ROBOTICS



In 1919, OTC DAIHEN developed, for the first time, new technologies for the mass production of transformers for energy distribution. The know-how gained from there soon led to the expansion of the business segments: OTC DAIHEN began developing and manufacturing high - performance welding machines and industrial robots for a wide range of applications in industrial automation, and has since been producing advanced equipment for the semiconductor industry in the rapidly developing electronics industry. OTC DAIHEN products are now used successfully in various industrial sectors worldwide and are currently an important factor for growth and development in future-oriented markets.



USA  
DAIHEN Inc.



USA  
DAIHEN Advanced  
Component, Inc.



OTC DAIHEN  
EUROPE GmbH



China  
DAIHEN Advanced  
Machinery  
(Changshu) Co., Ltd.



China  
Mudanjiang OTC  
Welding Machines Co., Ltd.



China  
DAIHEN OTC  
(Beijing) Co., Ltd



China  
OTC Industrial  
(Qingdao) Co., Ltd.



Korea  
DAIHEN Korea  
Co., Ltd.



Japan  
Rokko Plant (KOBE)



China  
OTC Industrial  
(Shanghai) Co., Ltd.



Thailand  
DAIHEN ELECTRIC  
Co., Ltd.



Slovenia  
DAIHEN VARSTROJ d.d.



India  
OTC DAIHEN  
INDIA PVT.LTD.



Thailand  
OTC DAIHEN Asia  
Co., Ltd.



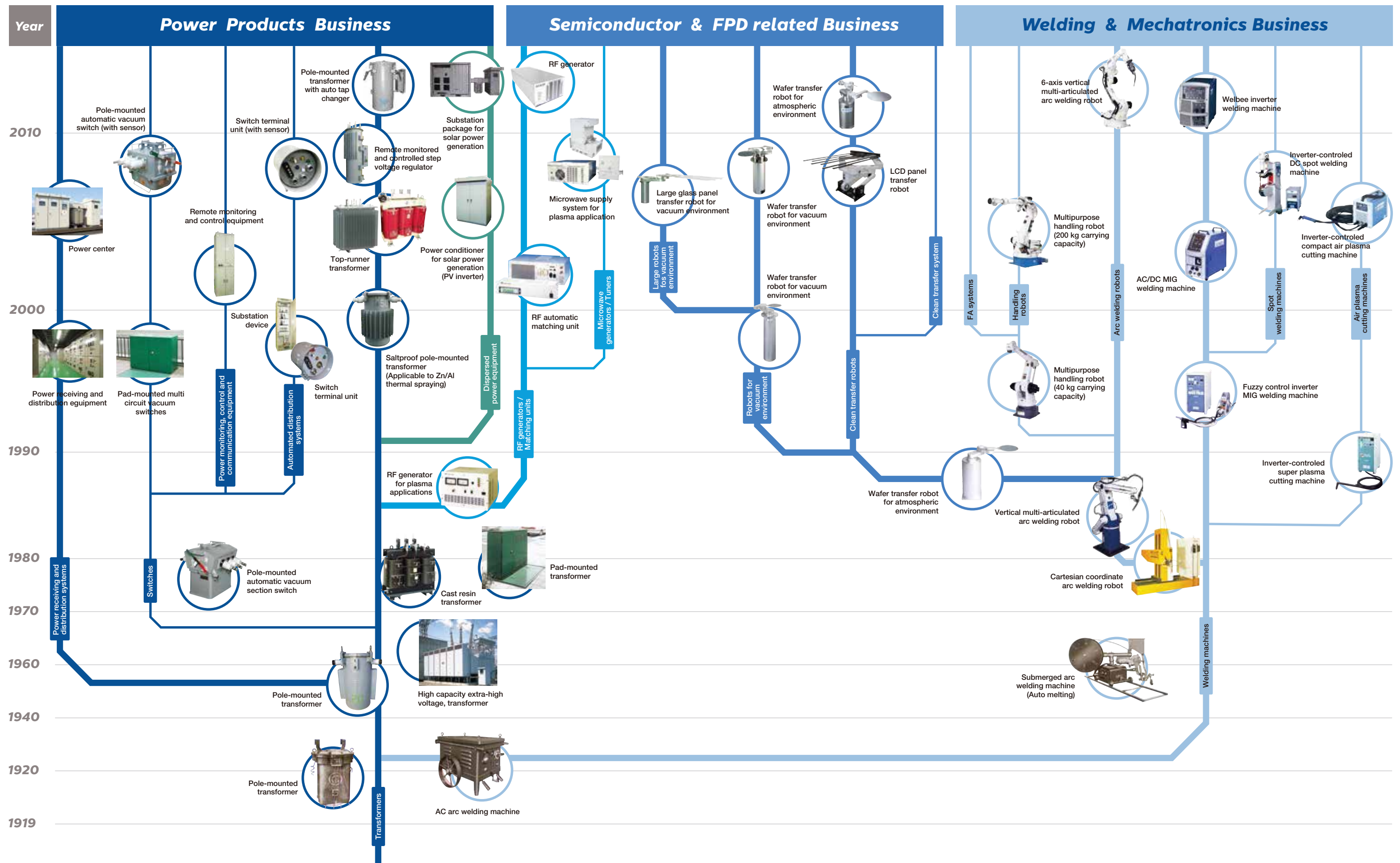
Indonesia  
PT.OTC DAIHEN  
INDONESIA



Taiwan  
OTC (Taiwan)  
Co., Ltd.



# HISTORY OF PRODUCT DEVELOPMENT





# Corporate Motto

## Based on “QCD”

**OTC DAIHEN Asia Co., Ltd.** was established at Navanakorn Industrial Estate, Pathumthani in April 1989, and started to produce electric welding and cutting machines and their components since July 1990.

Our company has production lines by thorough process from raw materials to finished goods which are based on “**Q C D**” for working operations.

Our Products have been used around the world and contributed to the development of metal working industries.



# & Head Office

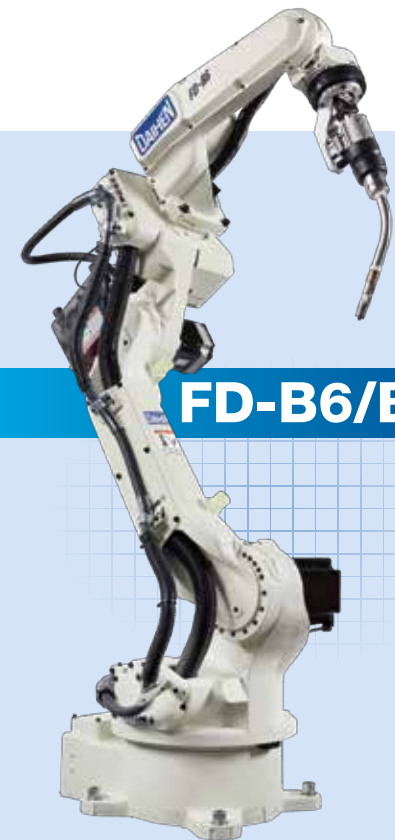
## Factory

<b>Name</b>	<b>OTC DAIHEN Asia Co., Ltd.</b>
<b>Establishment</b>	April 5, 1989 (Start operation from 1990)
<b>Head Office &amp; Factory</b>	60/86 Mu 19, Navanakorn Industrial Estate, Phase 3, Klong Nueng, Klong Luang, Pathumthani 12120, Thailand
<b>Home Page</b>	<a href="http://www.otcdaihenasia.com">http://www.otcdaihenasia.com</a>
<b>Paid-in Capital</b>	80 Million Baht
<b>Share holder</b>	DAIHEN Corporation (Japan) (100%)
<b>Employees</b>	Thai 454, Japanese 15 (As of June 30, 2013)
<b>Products</b>	Electrical Arc Welding Torch, TIG Torch, Plasma Cutting Torch, and their components. CO2/MAG Semi-Automatic Welding Machine, and Wire Feeder.



# WELDING & HANDLING ROBOT

Almega Friendly Series



FD-B6/B6L

Main features

- Fastest cycle times in the industry, resulting in to shorter tact time.
- Built-in wrist motor eliminates interference with jigs and workpieces.
- Slim arm enables high-density installations.
- Synchro-feed welding cables are built into the arm.
- Eliminates the interference normally caused by weld cables behind the arm.
- A signal line and air hose are also built-in, supporting a variety of advanced tools.
- Payload is 6 kg, providing surplus payload for torch and sensor models.
- Accommodates advanced welding technologies such as Synchro-feed and Cold Tandem.
- IP64 environmental raiting: dust-proof and rainproof.

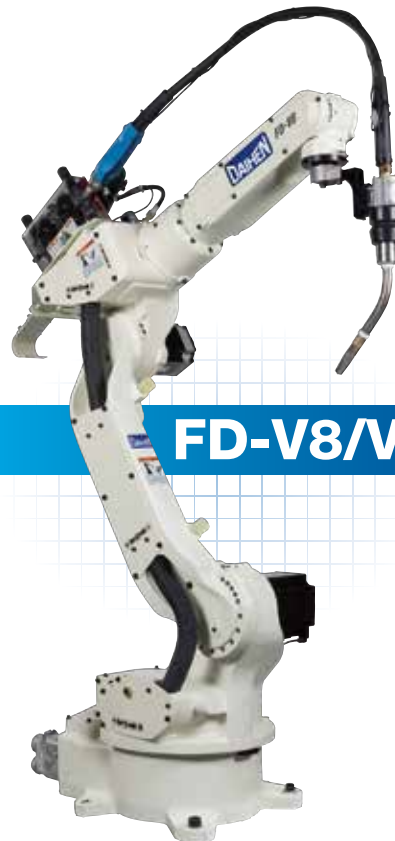
Specification

Item	Specifications
Model Name	NB6
Structure	Vertical articulated type
Number of Axes	6
Wrist Payload	6 kg
Weight	145 kg
Load of upper arm	10 kg

☐ These specifications are subject to change without prior notice.

Item	Specifications
Model Name	NB6L
Structure	Vertical articulated type
Number of Axes	6
Wrist Payload	6 kg
Weight	278 kg
Load of upper arm	20 kg

☐ These specifications are subject to change without prior notice.



FD-V8/V8L

Main features

- Many cables and air hoses are built - in, and assorted advanced tools are accommodated.
- Corresponds to IP54 and is dust-proof and rainproof.
- Payload upped 1.3 times to 8 kg. Diverse sensors can be installed and it accommodates AI.
- Speed of all axes upped (maximum 15%). Highest speed specs in the industry realized with shorter tact time.
- 5% slimmer lower arm realized. Accommodates high density installations.
- Weight reduction 3% to 140 kg realized.
- With suspension or wall mount systems, equipment installation cost is reduced.
- All the cables except the conduit and one wire power cable are built into the arm. It's ideal for high end welding such as Synchro-feed.
- The cable behind the arm is gone decreasing interference. The back interference area is reduced about 30%. The spacing between robots is reduced about 20% enabling high density installations.
- Contributes to reducing line length.

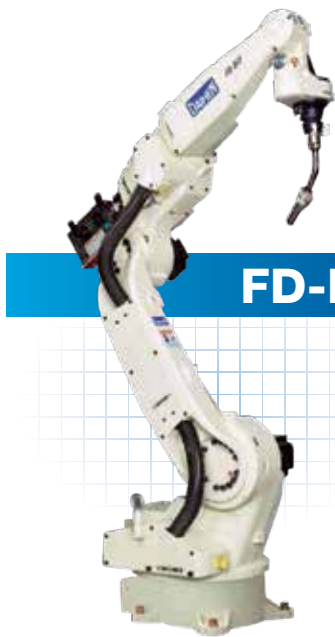
Specification

Item	Specifications
Model Name	NV8
Structure	Vertical articulated type
Number of Axes	6
Wrist Payload	8 kg
Weight	140 kg
Load of upper arm	10 kg

☐ (Note) Specifications for wall mounting appear in parentheses.

Item	Specifications
Model Name	NV8L
Structure	Vertical articulated type
Number of Axes	6
Wrist Payload	8 kg
Weight	273 kg
Load of upper arm	20 kg

☐ (Note) Specifications for wall mounting appear in parentheses.



FD-B15

Main features

- Largest payload class in the industry while still having the cable built into the robot.
- The extensive work envelope meets the welding automation needs of large structures.

Specification

Item	Specifications
Model Name	NB15
Structure	Vertical articulated type
Number of Axes	6
Wrist Payload	15 kg
Weight	286 kg
Load of upper arm	20 kg

☐ (Note) The end effect is when the maximum payload capacity is loaded. These specifications are subject to change without prior notice.

FD-V25

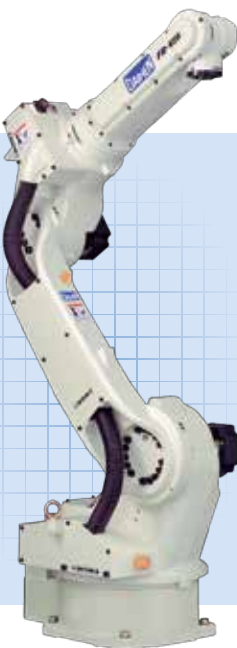
Main features

- Due to the industry's fastest speeds, cycle times are reduced.
- The maximum payload has been increased by 25%, up to 25 kg. Expands support for various handling applications.
- Integrated signal cables and air hoses to accommodate a variety of end effectors.
- Splash-proof and dust-proof design equivalent to IP64 enclosure rating.

Specification

Item	Specifications
Model Name	NV25
Structure	Vertical articulated type
Number of Axes	5
Wrist Payload	25 kg
Weight	278 kg
Load of upper arm	10 kg (Wrist capacity : 25kg)

☐ (Note) The end effect is when the maximum payload capacity is loaded. These specifications are subject to change without prior notice.



FD-A20

Main features

- High tracking accuracy throughout the entire robot work envelope.
- High accuracy delivered in both straight-line and small-arc applications.
- Standard interface with easy teaching and integration to production-ready laser oscillators.
- Standard interface with easy teaching and integration to production-ready laser oscillators.
- Your laser cutting programs are automatically generated from your CAD data via our offline teaching application software: FD-ST.
- 20kg payload accommodate a laser welding torch.
- Even though it uses a parallel link structure, optional reverse rotation of the 3rd-axis is enabled, supporting expanded work envelope to the rear of the robot.

Specification

Item	Specifications
Model Name	NA20
Structure	Vertical articulated type
Number of Axes	6
Wrist Payload	20 kg
Weight	355 kg
Load of upper arm	20 kg

☐ (Note) The end effect is when the maximum payload capacity is loaded. These specifications are subject to change without prior notice.



Welding Best Electronic Engine



Low Spatter & High Speed  
Advanced Model

M350L

**Characteristic**  
Digital inverter controlled low sputter  
CO<sub>2</sub> / MAG automatic welding machine

- Significant reduction of spatter generation from low current area to high current area
- Suppresses spatter generation even at high speed welding and realizes high quality welding

Specification

Welding power supply	WB-M350L
Rated input	3Phase 380 / 400 V
Rated output	350 A / 36 V
Output adjustment range	30~350 A / 12~36 V
Rated usage rate	60 %
Mass (dimension)	54 kg (395 × 710 × 640 mm)
Wire feeder	CMV-7403
Welding Torch	BT3500V-30
Gas Flow Regulator	AU-888

High Quality Standard Model

M350/M500

**Characteristic**  
Digital inverter controlled type CO<sub>2</sub> / MAG automatic welding machine

- Stability of the arc is greatly improved from the low current area to the high current area
- Voltage fluctuation is small even at high speed welding, realizing a beautiful bead appearance with bead edges
- Welbee high dustproof and easy maintenance (M 500) with side flow structure

Specification

Welding power supply	WB-M350	WB-M500
Rated input	3 Phase 380 / 400 V	3Phase 380 / 400 V
Rated output	350 A / 36 V	500 A / 45 V
Output adjustment range	30~350 A / 12~36 V	30~500 A / 12~45 V
Rated usage rate	60%	100%
Mass (dimension)	53 kg (395×710×640 mm)	71 kg (395×710×810 mm)
Wire feeder	CM-7403	CM-7403
Welding Torch	BT3500-30	BT5000-30
Gas Flow Regulator	AU-888	FCR-226



P400

**Characteristic**  
Digital Inverter Controlled Pulse MAG / MIG · CO<sub>2</sub> / MAG / MIG Automatic Welding Machine

- High-quality pulse welding realized by waveform control optimized for various materials
- Excellent stability of the arc even at high speed welding



Specification

Welding power supply	WB-P400
Rated input	3Phase 380/400V
Rated output	350 A / 36 V
Output adjustment range	30~350 A / 12~36 V
Rated usage rate	60 %
Mass (dimension)	52 kg (395×710×640mm)
Wire feeder	CM-7403, CMA-7403, CMAW-7403
Welding Torch	BT3510-30, BTA300-30, BTAW400-30
Gas Flow Regulator	D-BHN-2, FCR-226

P400L/500L

**Characteristic**  
Digital Inverter Controlled Pulse  
MAG / MIG · CO<sub>2</sub> / MAG / MIG  
Automatic Welding Machine

- Significant reduction in spatter generation from low current to high current
- High-quality pulse welding realized by waveform control optimized for various materials

Specification

Welding power supply	WB-P400L	WB-P500L
Rated input	3Phase 380/400V	3Phase 380/400V
Rated output	400	500 (Direct current) / 400 (pulse)
Output adjustment range	30~400A	30~500 (Direct current) / 30~400 (pulse)
Rated usage rate	60 %	60 % (Direct current) / 80 % (pulse)
Mass (dimension)	54 kg (395×710×640mm)	72 kg (395×710×810mm)
Wire feeder	CM-7403, CMV-7403, CMA-7403	CM-7403, CMV-7403, CMW-743, CMA-7403, CMAW-743
Welding Torch	BT3510-30, BT3510V-30, BTA300-30	BT5000-30, BT3510V-30, WTCW-5001, BTA300-30, WTCW-5002
Gas Flow Regulator	D-BHN-2, FCR-226	D-BHN-2, FCR-226



W400

**Characteristic**  
AC / DC pulse MAG / MIG automatic welding machine

- Daiheng's proprietary AC pulse welding method realizes high efficiency and high quality welding of ultrathin plates
- Evolutionary wave pulse enables welding quality with less vessel
- Aluminum · mild steel · stainless steel, and high quality welding possible for various plate thickness
- Output current 17% UP! High efficiency welding is achieved up to middle thickness

Specification

Welding power supply	WB-M400
Rated input	3 Phase 380 / 400 V
Rated output	400 A / 36 V
Output adjustment range	30~400 A
Rated usage rate	60 %
Mass (dimension)	75 kg (395×710×835mm)
Wire feeder	CM-7403, CMA-7403, CMAW-7403
Welding Torch	BT3510-30, WTS300-SD, BTA300-30, BTAW400-30
Gas Flow Regulator	D-BHN-2

F300P

- Characteristic**
- Keyhole welding realizes high-speed welding and high quality welding
  - Pulse frequency and pulse machine can be freely changed, a solid pulse function to prevent distortion and melting down
  - Torch recognition function to prevent torch and consumable parts from burning
  - Torch has a double nozzle type that suppresses consumption of electrodes and stabilizes output for a long time and a single nozzle type that can be miniaturized while adapting to a large current



Specification

Welding power supply	WB-F300P
Rated input voltage	3 Phase 380 / 400 V (common 50/60Hz)
Rated output	300 A
Output adjustment range	0.5~300 A
Rated usage rate	100 %
Mass (dimension)	86 kg (395×710×820mm)
Wire feeder	CM-7403, CMA-7403, CMAW-7403
Welding Torch	PTW-0151 PTPW-0701 PTPW-1001 PTPW-1501 PTPW-2001 PTPW-3001E
Base material side power cable	BKPTF-0305 BKPTF-2205 BKPTF-6005 BKPTF-8005
Gas hose	BKHGGF-0705
Water hose	BKWCF-0805
Air Hose	BKACF-0805
Ar gas flow rate regulator	V-F22AR
Ar + H <sub>2</sub> gas flow rate regulator	*FR-2LL
Air unit	K-5972



A350P

- Characteristic**
- High quality welding of ultrathin plates
  - High efficiency utilization of thick plates is supported
  - Automatic setting of welding conditions with "welding setting guide" function
  - Compatible with Fieldbus Interface

Improve convenience when connecting an automatic machine

Specification

Welding power supply	WB-A350P
Rated input	3 Phase 380 / 400 V
Rated output	350 A
Output adjustment range	AC5~350A / DC2~350A
Rated usage rate	40 %
Mass (dimension)	56 kg (395×710×640mm)
Welding Torch	AWD-17, AWD-26, AWD-18
Base metal side power cable	BKPDT-3803
Gas hose	BKGFF-0603
Water hose (for tap water)	BBDW-3001
Water hose (for water tank)	BBPU-3002
Gas flow rate regulator	V-F22AR

T500P

**Characteristic**  
High efficiency welding with large capacity 500 A output

- Constant current stability is improved, and a wide current range from thin plate to thick plate can be handled by one unit
- Startability · Stability of the arc greatly improved
- Automatic setting of welding conditions with "welding setting guide" function
- Early detection of welding abnormality by welding management function



Specification

Welding power supply	WB-T300P
Rated input voltage	3 Phase (single phase) 380 / 400 V
Rated output	500 A
Output adjustment range	2~500 A
Rated usage rate	60 %
Mass (dimension)	51 kg (395×710×640mm)
Welding Torch	AW-12
Welding torch adapter	BBAWD-1201
Base metal side power cable	BKPDT-6003
Gas hose	BKGFF-0603
Water hose (for tap water)	BBDW-3001
Water hose (for water tank)	BBPU-3002
Gas flow rate regulator	V-F22AR[manufactured by Nikkatsu TANAKA CORPORATION]





Almega Friendly Series

FD-V80

FD-V100

FD-V130

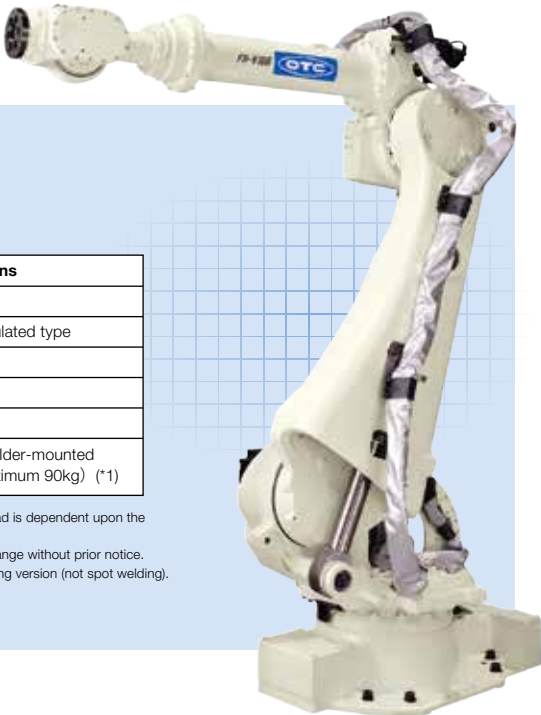
Main features

- Avoiding the interference with jigs or workpieces by slim design.
- Compatible wide operating range and narrow interference radius.
- Due to the industry's fastest speeds.
- Compatible with application cable of various communication standards
- Built-in cable from robot base to shoulder.

Specification

Item	Specifications		
Model Name	NV80	NV100	NV130
Structure	Vertical articulated type		
Number of Axes	6		
Wrist Payload	80 kg	100 kg	130 kg
Weight	780 kg	770 kg	765 kg
Load of upper arm	25 kg		

\*These specifications are subject to change without prior notice.



FD-V166/V210

Main features

- While shortening the cycle time, it still allows for high productivity.
- The shorter lines of high density installations can reduce equipment costs.
- Frequency and magnitude of maintenance tasks have been reduced through smart manipulator design.
- Reduction in power consumption supports your Green' manufacturing goals.

Specification

Item	Specifications
Model Name	NV166
Structure	Vertical articulated type
Number of Axes	6
Wrist Payload	166 kg
Weight	1010 kg
Load of upper arm	45 kg (Shoulder-mounted payload: Maximum 90kg) (*1)

- ☐ (\*1) Shoulder-mounted maximum payload is dependent upon the mounting location.
- ☐ \* These specifications are subject to change without prior notice.
- ☐ FD-V166 is the standard material handling version (not spot welding).

Accessories/Options



Robot Cell



Clean Kit



Wire feeders



Gas Saver



PC Software



Sensors



External Axis

7 AXIS ROBOT



FD-B4S

Main features

- The welding torch position and angle can be maintained while changing the robots posture.
- While teaching for a 7-axis robot tends to be a complex operation, Daihen's Synchro-motion technology maintains torch attitude and angle while teaching weld path positions.
- The welding power cable being built into the 7th axis robot is the first of its kind. Teaching can be done without concern of interference with jigs or workpieces.

Specification

Item	Specifications
Model Name	NB4S
Structure	Vertical articulated type
Number of Axes	7
Wrist Payload	4 kg
Weight	189 kg
Load of upper arm	10 kg

- ☐ (Note) The end effect is when the maximum payload capacity is loaded. These specifications are subject to change without prior notice.

FD-V20S

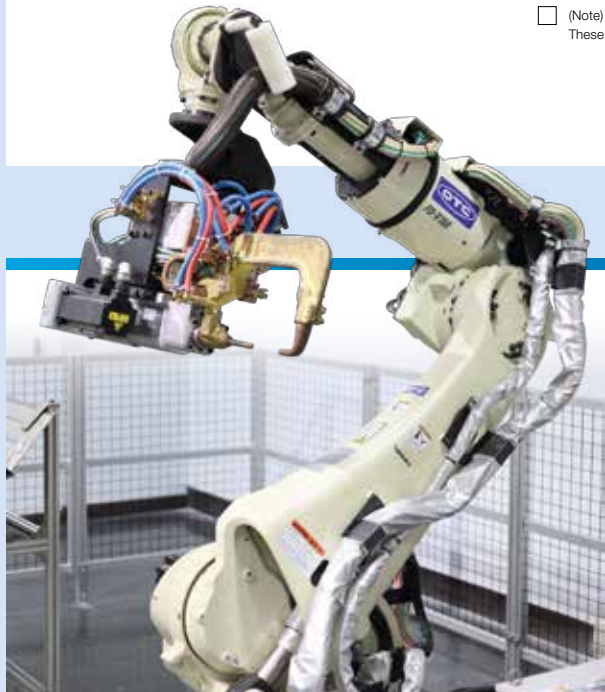
Main features

- Teaching with competing 7-axis robots is cumbersome. Our simplified teaching maintains torch attitude using our exclusive Synchro-motion technology.
- Payload 20kg. Well-suited for medium load material handling and welding.

Specification

Item	Specifications
Model Name	NV20S
Structure	Vertical articulated type
Number of Axes	7
Wrist Payload	20 kg
Weight	321 kg
Load of upper arm	20 kg

- ☐ (Note) The end effect is when the maximum payload capacity is loaded. These specifications are subject to change without prior notice.



Application

Spot welding

Spot welding guns are mounted on robots and used to spot weld steel. They are used to assemble auto bodies, parts, and frames. Welding guns are controlled by the robots so weld spatter does not occur for high quality welds and high productivity in a clean and quiet environment.



## CO2/MAG/MIG Inverter



### DL350II



Cutting Edge Low Spatter and Low Heat Input Welding Machine Inverter Controlled CO2/MAG Welding Machine Dramatically improved the quality of thin sheet welding with gaps.

### DM350



Inverter Controlled CO2/MAG Welding Machine for Higher Quality and Efficiency Welding Substantially Small Size and Light Weight



### CPVE 400II/500II

Full Digital Inverter CO2/MAG Welding Machine. High Power Factor, Saving Energy. Welding conditions can be read and operated from remote control box.



## Step Controlled



### CPTX-210



Robust Design, Simple Operation, Designed for light manufacturing, automotive repair industries.

## Thyristor



### XD250C



Digital Synergic Controlled CO2/MAG Welding Machine with Wire Feeder Built-in Big Wheel and Handle for Easy Carrying

### XD350SII / 500SII



Digital Synergic Control with Quality One knob Synergic Control & Penetration Control



## CD Arc Welding Machine



### VR400II



Inverter Controlled High Performance DC Arc Welding Machine. IGBT Inverter Control Results Superior Arc Stability. Arc Drive Control ensures High Quality Welding Can weld with Cellulose-coated electrode at any positions



### MR400



IC. Thyristor Controlled DC Arc Welding Machine. Heavy Duty Cycle Machine suitable for medium and thick plate welding. (Rated duty cycle 60%) constant current characteristics features stable and constant welding

## TIG Welding Machine

(ACCU TIG)

### AEP300/500



AC+DC Hybrid Pulse TIG Welding Machine delivers "High Quality Welding" and "User Friendly Operations"



### DT300PII



This is The Most Intelligent TIG Welding Machine with TIG Synergic Function



### MR315T



Multi Mode for High Performance High Quality with DC TIG welding High Efficiency with DC Stick Welding



## Multi Purpose Welding Machine



### MRA630



Digital Controlled High Performance DC Arc Welding and Gouging Machine with Micro Processor Suitable for Low carbon steel, High-strength steel, High-resistant steel, stainless steel and copper alloy-Safety design, multiple protection, easy maintenance

### XD600G



Thyristor Controlled CO2/MAG Welding & Gouging Machine 3 in 1 Micro-processor digital controlled multi-function welding machine  
• CO2/MAG function • DC Gouging function • DC Stick function  
Very suitable for work like back side gouging, or welding defect removing



## Plasma Cutting Machine



### D-12000



- High Power and 100 % for Precision High Speed Cutting Max Cutting Capacity 60 mm
- High Power and 100 % Duty Cycle for Precision High Speed Cutting
- Max Cutting Capacity 60 mm (2.4in)
- Built-in "Torch Guard" function monitors tip and electrode consumption

### C-70



Max Cutting Capacity 35 mm, 60% Duty Cycle at maximax current Double the Cutting Speed at Half the Cost compare to Oxy/Fuel Cutting





# BLUE Torch III

"Easy" welding work,  
From an operator's point of view  
I was born with thorough pursuit  
The latest CO 2 / MAG / MIG  
welding torch

**Characteristic**  
CO2 / MAG / MIG welding torch

- "Fatigue resistant" welding torch
  - Easy handgrip torch handle
  - Flexible cable with excellent workability is adopted
- "hard to get hot" torch handle
- "Easy to use" welding torch
  - Easy to customize according to work environment and use
  - Maintenance is greatly improved
- Rich line-up from 180 A to 500 A



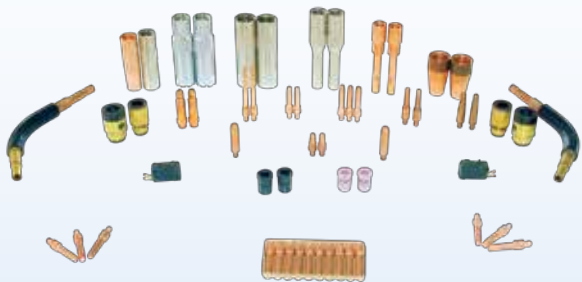
**Heat Resistant !**  
The new structure of the handle is so heat-resistant that, it allows for even hours of welding.

**User friendly !**  
Easy to dismantle and can be adapted to numerous shapes

**Low fatigue !**  
Ergonomic and "Easy-grip" handle

## Customizable for every application

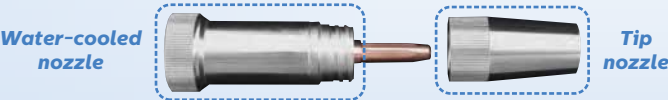
- "Easy-Grip" torch handle
- Flexible cable, for smooth handling
- "Heater-resistant" torch handle
- "User-friendly" welding torch
- Can easily be adapted to the working environment and the application area
- Considerably improves maintenance
- Available in an extensive product range



OTC Genuine Consumable Parts

## NEW water-cooled MIG welding torch (BTAW500) can achieve high-quality aluminum welding.

- **High shielding performance**  
The path for shielding gas at the torch tip is optimized. Air entrapment has been reduced by 80% max by regulating the shielding gas flow ("in comparison with conventional torch).
- **Reduction of blowholes**  
Dew point performance has been improved by 30% by using a hose that does not easily transmit moisture into the gas path of the torch.
- **Improved cleaning workability by adapting the split nozzle structure**



No cooling water leaks during cleaning work and thus no moisture enters the shielding gas, there by reducing the occurrence of blowhole.

## Extensive lineup

for various applications : selectable from 21 types such as 180A to 500A air/water-cooled, and standard/flexible torch body.

For CO2/MAG	Small handle type			Large handle type		
Rated current	180A (CO <sub>2</sub> ) 130A (MAG)	200A (CO <sub>2</sub> ) 160A (MAG)	350A (CO <sub>2</sub> ) 200A (MAG)	350A (CO <sub>2</sub> ) 300A (MAG)	350A (CO <sub>2</sub> ) 350A (MAG)	350A (CO <sub>2</sub> ) 450A (MAG)
Model	BT1800-30	BT2000-30(40)	BT3500-30(45•60)	BT3510-30(45•60)	BT3520-30(45•60)	BT5000-30(45•60)
Duty cycle	40% (CO <sub>2</sub> ) 30% (MAG)	50% (CO <sub>2</sub> ) 30% (MAG)	30% (CO <sub>2</sub> ) 30% (MAG)	60% (CO <sub>2</sub> ) 30% (MAG)	80% (CO <sub>2</sub> ) 30% (MAG)	60% (CO <sub>2</sub> ) 30% (MAG)
Wire diameter	(0.6) 0.8 mm	(0.8) 0.9 (1.0) (1.2) mm	(0.9) (1.0) (1.2) mm	(0.9) (1.0) 1.2 (1.4) mm	1.2 (1.4) (1.6) mm	(1.2) 1.4 (1.6) mm
Cable length	3 m	3, 4 m	3, 4.5, 6 m	3, 4.5, 6 m	3, 4.5, 6 m	3, 4.5, 6 m
Cooling system	Air cooling	Air cooling	Air cooling	Air cooling	Air cooling	Air cooling

For CO2/MAG	For Water cooling		For Low spatter welding		
Rated current	450A (CO <sub>2</sub> ) 450A (MAG) 350A (MAG)	500A (CO <sub>2</sub> ) 450A (MAG) 400A (MAG)	200A (CO <sub>2</sub> ) 160A (MAG)	350A (CO <sub>2</sub> ) 200A (MAG)	350A (CO <sub>2</sub> ) 300A (MAG)
Model	BTW450-30(50)	BTW500-30(50)	BT2000V-30(40)	BT3520V-30(45•60)	BT3510V-30(45•60)
Duty cycle	100%	100%	50% (CO <sub>2</sub> ) 30% (MAG)	30% (CO <sub>2</sub> ) 30% (MAG)	60% (CO <sub>2</sub> ) 30% (MAG)
Wire diameter	1.2 (1.4) (1.6) mm	(1.2) (1.4) 1.6 mm	(0.8) 0.9 (1.0) (1.2) mm	(0.9) (1.0) (1.2) mm	(0.9) (1.0) 1.2 (1.4) mm
Cable length	3, 5 m	3, 5 m	3, 4 m	3, 4.5, 6 m	3, 4.5, 6 m
Cooling system	Water cooling	Water cooling	Air cooling	Air cooling	Air cooling

For CO2/MAG	Flexible type			
Rated current	200A (CO <sub>2</sub> ) 160A (MAG)	350A (CO <sub>2</sub> ) 200A (MAG)	350A (CO <sub>2</sub> ) 300A (MAG)	350A (CO <sub>2</sub> ) 350A (MAG)
Model	BT2000-30(40)	BTW3500F-30(40)	BT3510F-30(45•60)	BT3510V-30(45•60)
Duty cycle	50% (CO <sub>2</sub> ) 30% (MAG)	30% (CO <sub>2</sub> ) 30% (MAG)	60% (CO <sub>2</sub> ) 30% (MAG)	80% (CO <sub>2</sub> ) 30% (MAG)
Wire diameter	(0.8) 0.9 (1.0) (1.2) mm	(0.9) (1.0) (1.2) mm	(0.9) (1.0) 1.2 (1.4) mm	1.2 (1.4) (1.6) mm
Cable length	3, 4 m	3, 4.5, 6 m	3, 4.5, 6 m	3, 4.5, 6 m
Cooling system	Air cooling	Air cooling	Air cooling	Air cooling

For MIG	Small handle type			Large handle type		
Rated current	180A	200A	300A	300A	400A	500A
Model	BTA180-20	BTA200-30	BTA300-30	BTS300-30	BTAW400-30	BTAW500-30
Duty cycle	20% (MIG)	60% (MIG) 30% (Pulse MIG)	50% (MIG) 30% (Pulse MIG)	50% (MIG) 30% (Pulse MIG)	100%	80%
Wire diameter	0.8 mm	(1.0) 1.2 mm	(1.0) 1.2 (1.6) mm	(0.9) (1.0) 1.2 mm	(1.2) 1.6 mm	1.2 (1.6) mm
Cable length	2 m	3 m	3 m	3 m	3 m	3 m
Cooling system	Air cooling	Air cooling	Air cooling	Air cooling	Water cooling	Water cooling

\* If you use a wire diameter given in parentheses, an optional product is required.  
\* With the torches for a rated current of 350A or more, 0.9-mm dia. wire cannot be used for a cable length of 4.5m, and 0.9- and 1.0-mm dia. wires for a cable length of 6m.  
\* The low spatter welding torches are for the power sources of welbee M350L, P500L (low-spatter mode), and DL350.  
\* The wire feeder to be combined with BTAW400 and 500 is CMAW-7403 (central connection)  
\* The wire feeder to be combined with BTW450 and 500 is CMW-7403.

Same display of production part display light

Standard specification is alternating current spot projection welding machine

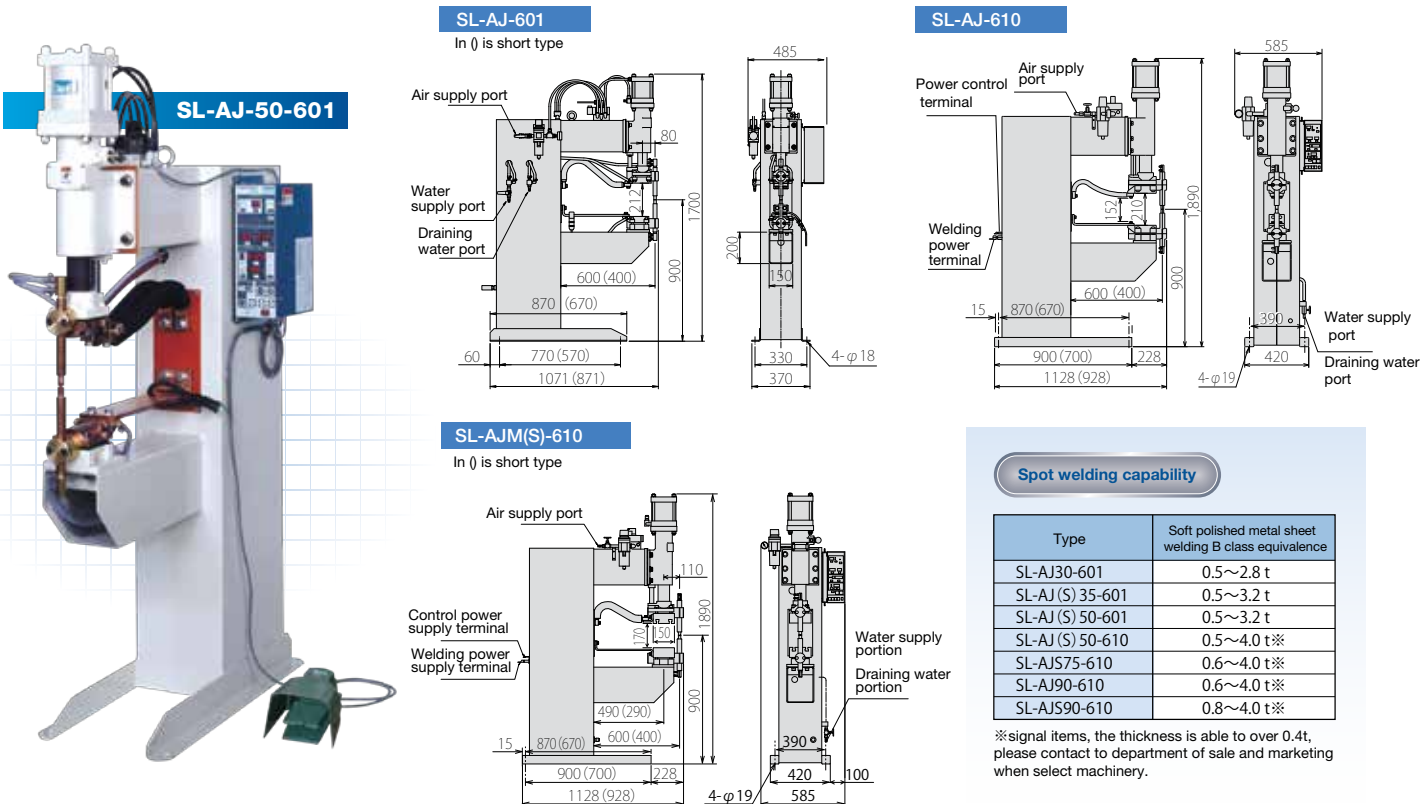
Specification  Type		Rated capacity		Maximum capacity (at 50%)		Secondary short circuit current (MAX)		Maximum welding current		Rated electrode force (at 0.49MPa)		Throat depth		Throat gap		Rated duty cycle		Frequency		Rated supply voltage (Direct current/Three phase/Alternating current/Single phase)		Platen diameter		Electrode stroke		Electrode taper		Electrode diameter		Electrode holder		Diameter of electrode horn		Weight		Timer type		Power supply control																																																																																																																																																																																																																																																																																																																															
		kVA	kVA	A	A	A	A	kN (kgf)	mm	mm	mm	%	Hz	V	mm	mm					mm	mm		φ mm	φ mm	mm	φ mm	kg																																																																																																																																																																																																																																																																																																																																									
																																							Platen position	Tip position	Platen position	Tip position	Platen position	Tip position	Platen position	Length	Diameter of electrode horn	Weight	Timer type	Power supply control																																																																																																																																																																																																																																																																																																																			
SLAJ30-601	Spot	30	60 [66.7]		13,400		12,000	5.6 (570)		600	212	12.0 [10]	380V 50Hz	200 or 400		20/60 convert type	1/10		16	25	180	60		256	265	247	281	255	349	365	420	400	376	393	422	413	442	VX-300K or R-50T	100																																																																																																																																																																																																																																																																																																																														
SLAJ35-601		35	85 [96]		16,000		14,400			8.3 [6.6]		400																												11.8 [9.5]	600	7.5 [5.5]	400	11.7 [9.1]	10.0 [8.0]	7.2 [5.5]	6.6 [5.1]	6.4 [4.7]	4.3 [3.3]	5.2 [3.8]	7.3 [5.5]																																																																																																																																																																																																																																																																																																																		
SLAJS35-601		72 [80]	16,000		14,400		400			11.8 [9.5]		600																												7.5 [5.5]	400	11.7 [9.1]	10.0 [8.0]	7.2 [5.5]	6.6 [5.1]	6.4 [4.7]	4.3 [3.3]	5.2 [3.8]	7.3 [5.5]																																																																																																																																																																																																																																																																																																																				
SLAJ50-601		50	129 [150]		20,000		18,000			600		7.5 [5.5]																												400	11.7 [9.1]	10.0 [8.0]	7.2 [5.5]	6.6 [5.1]	6.4 [4.7]	4.3 [3.3]	5.2 [3.8]	7.3 [5.5]																																																																																																																																																																																																																																																																																																																					
SLAJS50-601			104 [117]		19,500		17,550			400		11.7 [9.1]																												10.0 [8.0]	7.2 [5.5]	6.6 [5.1]	6.4 [4.7]	4.3 [3.3]	5.2 [3.8]	7.3 [5.5]																																																																																																																																																																																																																																																																																																																							
SLAJ50-610			129 [150]		20,000		18,000			600		7.5 [5.5]																												400	11.7 [9.1]	10.0 [8.0]	7.2 [5.5]	6.6 [5.1]	6.4 [4.7]	4.3 [3.3]	5.2 [3.8]	7.3 [5.5]																																																																																																																																																																																																																																																																																																																					
SLAJS50-610			104 [117]		19,500		17,550			400		11.7 [9.1]																												10.0 [8.0]	7.2 [5.5]	6.6 [5.1]	6.4 [4.7]	4.3 [3.3]	5.2 [3.8]	7.3 [5.5]																																																																																																																																																																																																																																																																																																																							
SLAJ75-610		75	161 [188]		25,000		22,500			600		10.0 [8.0]																												7.2 [5.5]	6.6 [5.1]	6.4 [4.7]	4.3 [3.3]	5.2 [3.8]	7.3 [5.5]																																																																																																																																																																																																																																																																																																																								
SLAJ90-610		90	196 [225]		30,000		27,000			600		7.2 [5.5]																												6.6 [5.1]	6.4 [4.7]	4.3 [3.3]	5.2 [3.8]	7.3 [5.5]																																																																																																																																																																																																																																																																																																																									
SLAJS90-610			235 [270]		30,000		27,000			400		7.2 [5.5]																												6.6 [5.1]	6.4 [4.7]	4.3 [3.3]	5.2 [3.8]	7.3 [5.5]																																																																																																																																																																																																																																																																																																																									
SLAJM50-610※		Spot projection	50		138 [156]		26,000			21,000		23,400																												18,900	9.3 (950)		290	400	170	380V 50Hz	200 or 400		20/80 convert type	1/10		18	32	220	70		376	393	422	413	442																																																																																																																																																																																																																																																																																																								

※Remark production part


- Maximum short circuit is measured when the throat is displayed
- [ ] is 60Hz time
- Alternating current • projection welding machine weight is not included attached equipment weight
- Direct inverter spot • projection welding machine weight is not included inverter power supply weight.

External dimension figure

※There is no power terminal control in inverter power supply machine.



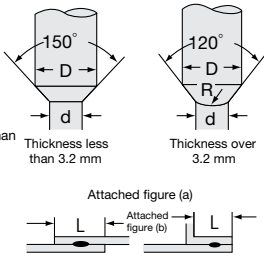
Mild steel sheet spot welding condition chart (Reference value) Alternating spot

Sheet thickness	Electrode			Minimum pitch	Minimum lap	Best condition (A class)				Medium condition (B class)				Normal condition (C class)			
	max ϕ d	min ϕ D	R			Welding time		Electrode force	Welding current	Welding time		Electrode force	Welding current	Welding time		Electrode force	Welding current
						50Hz	60Hz			50Hz	60Hz			50Hz	60Hz		
mm	mm	mm	mm	mm	mm	Cycle	Cycle	kN	A	Cycle	Cycle	kN	A	Cycle	Cycle	kN	A
0.25	3.2	10		6	10	3	4	0.9	4,000	4	5	0.6	3,700	13	15	0.3	3,000
0.4	3.2	10		8	10	4	5	1.1	5,200	7	8	0.7	4,500	17	20	0.4	3,500
0.5	3.5	10		9	11	5	6	1.3	6,000	8	10	0.9	5,000	20	24	0.4	4,000
0.6	4.0	10		10	11	6	7	1.5	6,600	10	12	1.0	5,500	22	26	0.5	4,300
0.8	4.5	10		12	11	7	8	1.9	7,800	13	15	1.2	6,500	25	30	0.6	5,000
1.0	5.0	13		18	12	8	10	2.2	8,800	17	20	1.5	7,200	30	36	0.7	5,600
1.2	5.5	13		20	14	10	12	2.6	9,800	19	23	1.7	7,800	33	40	0.8	6,100
1.4	6.0	13		23	15	12	14	3.0	10,600	22	26	2.1	8,500	38	46	1.0	6,600
1.6	6.3	13		27	16	13	16	3.5	11,500	25	30	2.4	9,100	42	50	1.1	7,000
1.8	6.7	16		31	17	15	18	4.0	12,500	28	33	2.7	9,700	45	54	1.3	7,500
2.0	7.0	16	35	18	17	20	4.6	13,300	30	36	2.9	10,300	48	58	1.5	8,000	
2.4	7.8	16	40	20	20	24	5.7	15,000	37	44	3.6	11,300	54	65	1.8	8,600	
2.8	8.5	16	45	21	23	28	6.9	16,200	43	52	4.2	12,100	60	72	2.2	9,400	
3.2	9.0	16	75	50	22	25	30	8.0	17,500	50	60	5.1	12,900	65	78	2.5	10,000
3.6	10.3	22	100	57	29	34	41	9.1	18,200	60	72	5.5	13,600	85	102	2.7	10,600
4.0	11.1	22	100	67	32	42	50	10.1	18,900	73	88	6.3	14,100	104	125	3.1	11,000

Remark (1) Minimum pitch comes from practical shunt effect depended on adjoining spot welding to show the neglect limit.

(2) Minimum lap displays in (b) figure.

(3) In case of different thickness 2 sheets welding, please refer to the thin sheet thickness for safety. (However, in case of thickness comparison, it is less than 1:3 in case that the convex of electrode is in thin sheet side) Also, less than 4 sheets welding layer becomes safety standard. (However, in case of sum of thickness sheet, it should be less than 4 times of one sheet.)



When do such below welding

(Refer to soft metal sheet spot welding condition chart)

	★In case of black surface	★In case of bonding sheet
Electrode pressure force	10~20% Increase	5~10% Increase
Welding current	5~10% Decrease	5~10% Increase
Welding time	Same	Same
Upslope	1~5 Cycle	1~5 Cycle

Stainless metal sheet reference welding condition

(Please refer to soft steel sheet spot welding condition chart)

Electrode pressure force increases 50%, welding current reduces 0% and welding time reduces 30%

Important equipment is alternative spot • projection welding machine

Function		Main circuit power supply				Power supply control		Cooling water		Compressed air		Installation	Grounding
		Power supply volta	Power supply capacity	Switch	Connecting cable	Power supply voltage	Connecting Lead line	Cooling water volume	Hose diameter	Compressor capacity	Hose diameter	Base bolt	Earth cable
Type		V	kVA	A	mm <sup>2</sup>	V	mm <sup>2</sup>	ℓ/min	φ mm	kW	φ mm		mm <sup>2</sup>
SLAJ30-601	Single phase alternating current	380V 50Hz	30	Over 150(75)	Over 38(22)	100	1.25	5	12	2.2	13	M16	14
SLAJ35-601			35										
SLAJS35-601													
SLAJ50-601			50	Over 300(150)	Over 60(38)								
SLAJS50-601													
SLAJ50-610													
SLAJS50-610			75	Over 400(200)	Over 80(50)								
SLAJS75-610													
SLAJ90-610													
SLAJS90-610			90	Over 500(250)	Over 100(60)								
SLMS50-610													
SLAJM(S)50-610													
SLMS75-610			50	Over 500(250)	Over 60(38)								
SLAJM(S)75-610													
SLMS90-610													
SLAJM(S)90-610	75	Over 400(200)	Over 80(60)										
	90	Over 500(250)	Over 100(60)										

Remark

- The cooling water pressure is due to water supply portion 0.1~0.3 MPa
- Compressed air is due to air supply port 0.5~0.7 MPa range, please use dry air. ※In case of the value number of power supply main circuit is over 50kW for high pressure receiving equipment, please refer to displayed value.
- Use value in ( ) u when 400V utilization ※For receiving equipment which is less than 50kW, the value of main circuit power supply cannot be referred (Abolish power supply voltage value). Therefore, please refer to standard electrical power of each receiving equipment. The volume of cooling water is possible to depend on consumption in electrode heat sink. We provide an option part to improve consumption heat sink