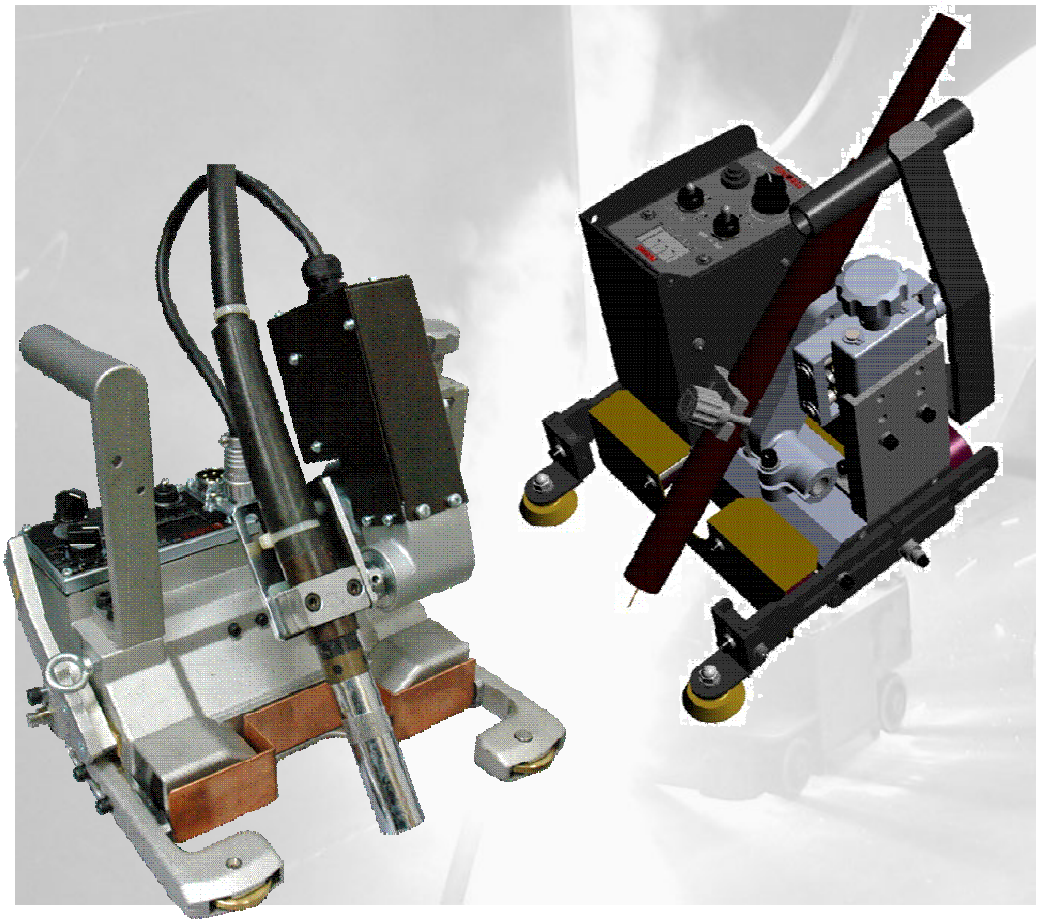
KOIKE



Portable Welding Carriages and Positioners

KOIKE SANSO KOGYO CO., LTD.

KOIKE

NEW Product

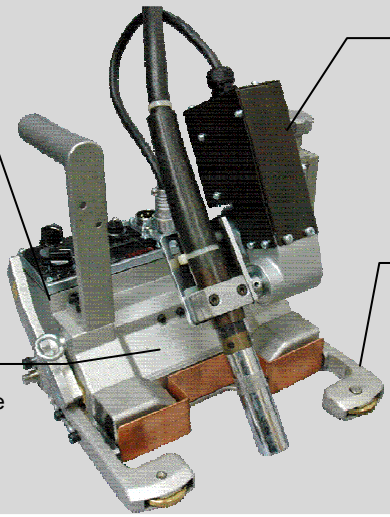
Wel-handy Multi-Ⅱ

■Outline

Wel-handy Multi-Ⅱ series succeeds merits of conventional model such as light weight, strong traction force, and extensibility for various works. And Wel-handy Multi-Ⅱ series are renewed for higher performance.

Wel-handy Multi-Ⅱ (Standard)

- **7 kg body weight of high portability, magnet adsorption, and 4 wheels drive provide running stability (constant speed).**



・Built-in Permanent Magnet

By turning down the lever on side of machine, built-in magnet is attracted to the steel plate, it demonstrates the high traction pulling the torch lead.

・Aluminum Die-cast Body

The aluminum die-cast molded body provide its light-weight and sturdy.
(Net Weight 7kg by Standard Specification)

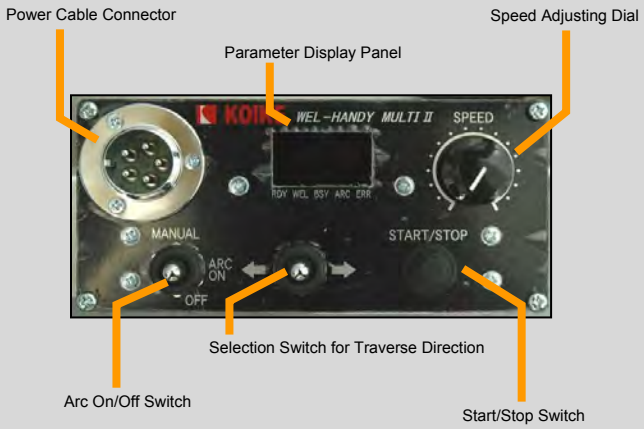
・Torch Slide unit

Each 45mm of adjustment has been ensured in back and forth, up and down. Smooth operability, it can be fine adjusted the torch position even during welding.

・Guide Roller Arm

No need to install a rail.
Guide Roller Arm will trace the surface of vertical plate.
Besides standard type shown in the picture, other types of Guide Roller Arm are also available as option for various different applications.

●Standard type Controller



- High performance microcomputer controller.
- User-friendly digital display of traverse speed (mm/min). Easy welding parameter setting for unskilled welder.
- Encoder ensures Constant Speed control.
- Fine adjustment of carriage start position is possible. By simply pressing limit switch, carriage moves at low speed for your quick and easy setup to start point. (Patent Pending)
- Wide traverse speed range. (50 ~ 1,500 mm/min)

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NEW Product

Wel-handy Multi-Ⅱ

● **More lineup for high-end models with “Tack” and “Weaving” features**

Wel-handy Multi-Ⅱ (Tack)

● **Automate Tack welding application at high-speed**

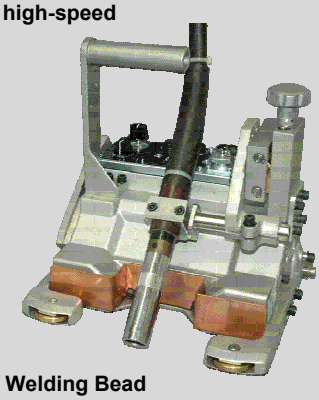


Image of Welding Bead

Tack welding is made by repeating welding and dry-run traverse alternatively. Automatically switched to maximum speed during dry-run traverse to improve work efficiency.

Wel-handy Multi-Ⅱ (Weaving)

● **Longer welding leg with Torch weaving motion**

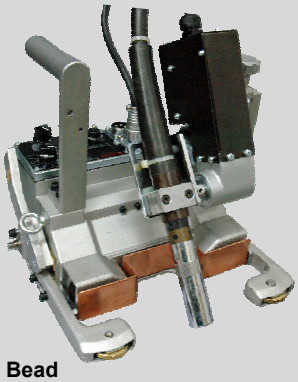
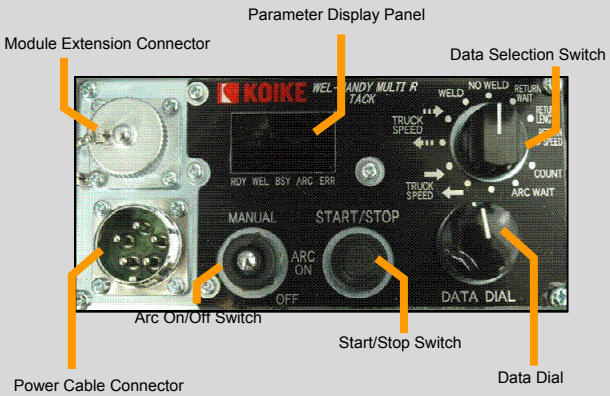


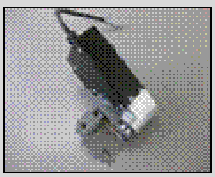
Image of Welding Bead

Longer welding leg can be achieved by torch weaving motion.
Strong magnet enables vertical position welding application; such as vertical up welding.

●Tack and Weaving Controller



- High performance microcomputer controller.
- Switch unit with click feeling enables operate with leather gloves kept. No need to take off leather gloves.
- Capable of tack and weaving parameter editing in the middle of carriage operation.
- Tack welding interval (weld/ dry-run part) is temporarily adjustable by switching Arc ON/OFF.
- Crater treatment at the end point of weld bead can be made by both carriage reverse run and welding machine control.
- Fine adjustment of carriage position at start point is possible. By pressing limit switch, carriage moves at low speed. (Patent Pending)
- Wide traverse speed range. (50~1500 mm/min)



Weaving Unit WU-5R

Operation Pendant Box PCR-A

* Please use weaving unit "WU-3R" with module expansion connector when using operation pendant together with weaving unit.

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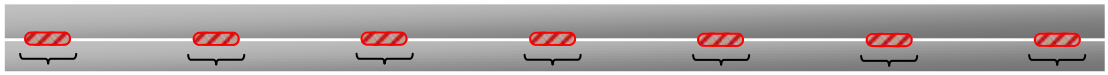
NEW Product

Wel-handy Multi-Ⅱ

Application example for Wel-handy Multi-Ⅱ Tack

Repeated “Tack welding” at equal interval is commonly used application to prevent intense heat input.



“Tack weld” at equal interval is made by repeated start/ stop of welding.

Problem in conventional method

In conventional automation of Tack welding, timer is popularly used to control arc ON/ OFF, which contains following problems.

Problem 1 It’s hard to recognize welding length.

By timer control, weld bead length (L) is calculated by: “Traverse Velocity (V)” × “Arc ON Time (T) ”.

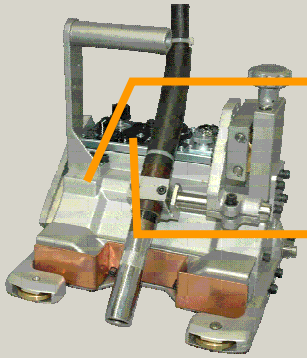
If traverse speed is changed, weld bead length also changes.
Calculation is required to recognize welding length.
Therefore, it’s hard to adjust the welding length.

Problem 2 Crater treatment is not available.

Crater at the end of welding point has risk of weld crack; therefore, crater must be filled up by Crater treatment.

To do crater treatment, complicated control such as ON/ OFF of torch switch and carriage reverse drive are required.
Therefore, it’s hard to do crater treatment by analog circuit.

Wel-handy Multi-Ⅱ Tack can solve it!

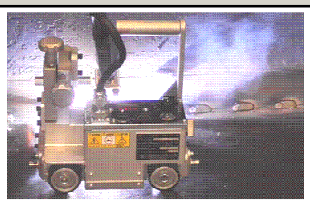


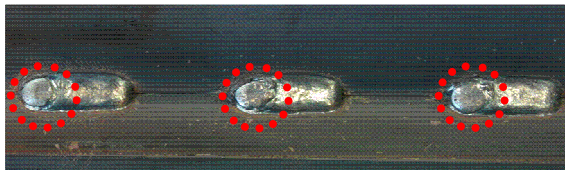
Motor with encoder

Drive distance is automatically calculated by motor rotation.
Tack weld is available by simply inputting weld length and dry-run length only.

High performance controller

Microcomputer control allows detail parameter setting for crater treatment; such as speed and distance of carriage reverse drive.
All parameter settings are indicated in Digital Display Panel for easy welding quality control.





Crater treatment process is fully automated by inputting detail parameter setting; such as crater welding current and carriage reverse drive.

KOIKE

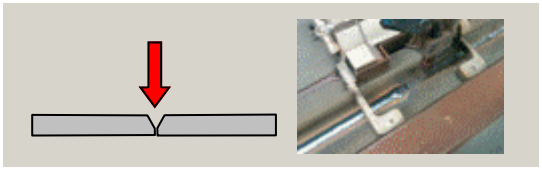
NEW Product

Wel-handy Multi-Ⅱ

Application example for Wel-handy Multi-Ⅱ Weaving

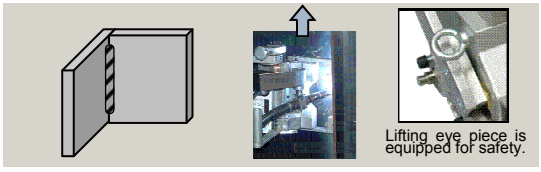
Weaving function to wave a torch can not only make leg length wider but also manage following works.

Method 1 Butt-weld for bevel edge plates



With weaving function, wider welding bead can be filled in bevel groove. (Guide plate need to be prepared separately.)

Method 2 Vertical-up fillet welding

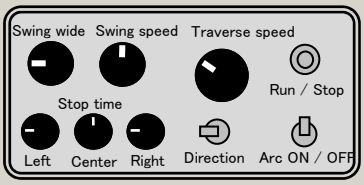


Only skilled welder can make vertical-up fillet welding. Weaving function automates it with use of flux-cored welding wire.

▲Problem in conventional method

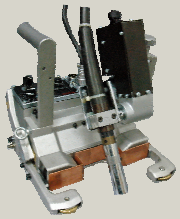
By adding weaving unit to standard welding carriage, a lot more parameters are required for setting, which contains following problems in the conventional method.

Problem Low workability, and operability.



- Difficult to operate tiny size of switches.
  Either enlarge operation panel or minimize switches is required to place number of switches for each parameter.
- Analog volume dial switches are not precise.
  Digital parameter data cannot be recorded either.

Wel-handy Multi-Ⅱ Weaving can solve it!



High performance controller

- User-friendly controller layout design
  with larger size switches for easy operation even with leather groves.
- Easy parameter control with Digital Display Panel
  for carriage speed, traverse direction, and any other weaving parameters.

① By selecting a type of parameter from this knob, current setting figure will be indicated on the Digital Display Panel at the left.

② The parameter selected on the above process ① can be edited by this knob.
Parameter can be edited even in the middle of welding process.

KOIKE

NEW Product

Wel-handy Multi-Ⅱ

■Main Specification

Model Name		Wel-handy Multi-Ⅱ (Standard)	Wel-handy Multi-Ⅱ (Tack)	Wel-handy Multi-Ⅱ (Weaving)
Stock Number		Pending	Pending	Pending
Machine Weight		Standard Magnet Model: 6.9 kg Strong Magnet Model: 7.5 kg	Standard Magnet Model: 6.9 kg Strong Magnet Model: 7.5 kg	Strong Magnet Model: 9.8 kg
Machine Dimension		See Figure 1.		See Figure 2.
Traction Force		16 kg		12 kg
Gap (F. L. ~ Base Board)		6 mm		
Magnet Up and Down Mechanism		Magnet Lever		
Driving Method		4-Wheel Driving Rubber Roller (Chain Transmission)		
Magnet-type		Permanent Magnet		
Traverse Speed		50 ~ 1,500 mm/min		
Tracing Method		Guide Roller (being pushed against Vertical plates)		
Applied Posture		Standard Magnet Model: Horizontal position Fillet Welding Strong Magnet Model: Vertical position Fillet Welding		
Torch Adjust Range	Torch Angle	40° ~ 55°		
	Up and Down	45 mm		
	Forward and Backward	45 mm		
	Forward / Backward Angle	5° Angle at both Forward / Backward		
Automatic Stop Function		Limit Switch (equipped at both sides of Carriage at FL +20 mm height)		
Fine Adjustment of Carriage Position		Included		
Non-Welded Portion		Approximately 270 mm (in total at both Start and End point)		Approximately 305 mm (in total at both Start and End point)
Power Cable		Y-Branch Cable (Power and Signal cable Integrated) ● Carriage ~ Branch: 6 m, ● Branch ~ Power: 10 m, ● Branch ~ Wire Feeder: 0.5 m (with matching Panasonic-type Connector) ※ Please consult when using welding machine other than Panasonic.		
Welding Torch		Straight WHM (C) - 350S & 500S		
		Curved 350A & 500A		
Torch Hold Diameter		Straight Torch Holder: φ20 mm		
		Curved Torch Holder: φ16~20 mm Diameter		
Motor		DC Motor with Encoder		
Input Power		AC 100 ~ 240V, 50/60Hz		

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NEW Product

Wel-handy Multi-Ⅱ

■External Dimension

Figure 1. Wel-handy Multi-Ⅱ / Wel-handy Multi-Ⅱ Tack

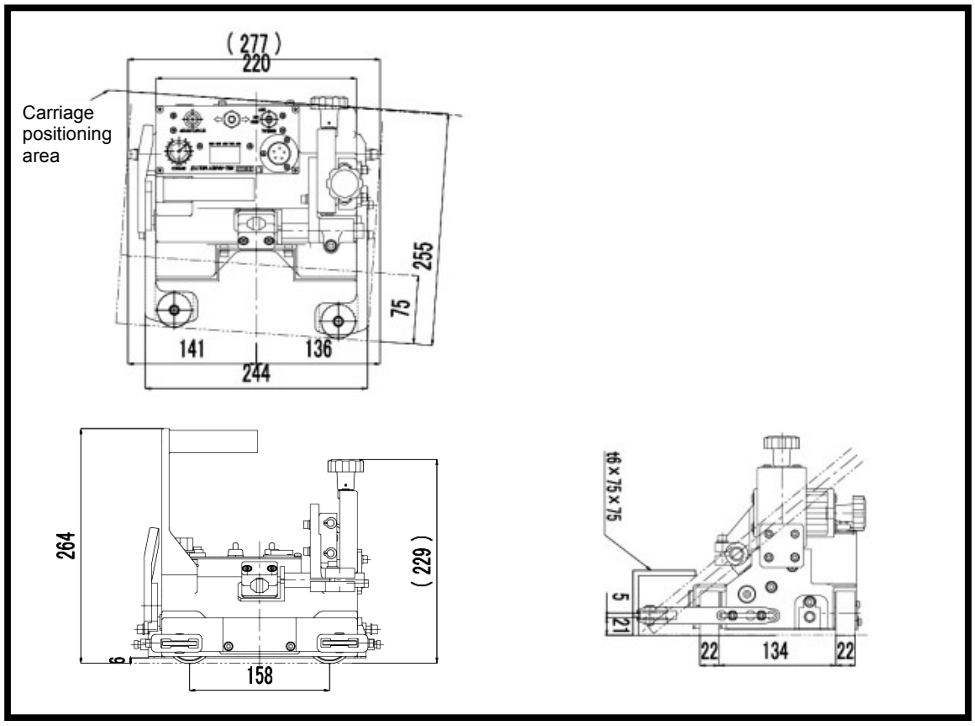
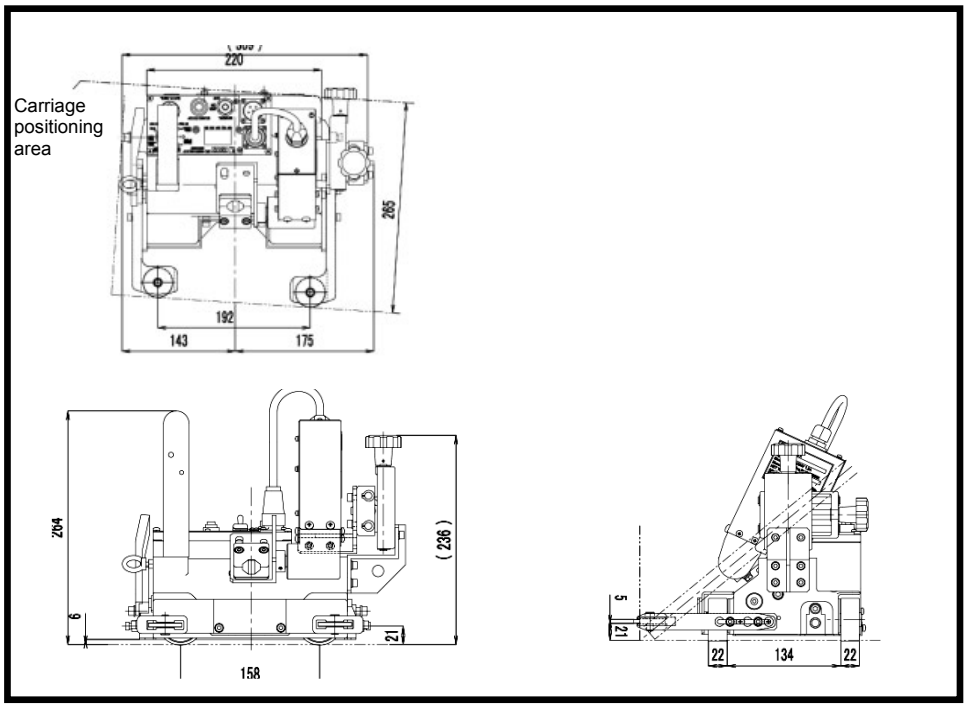
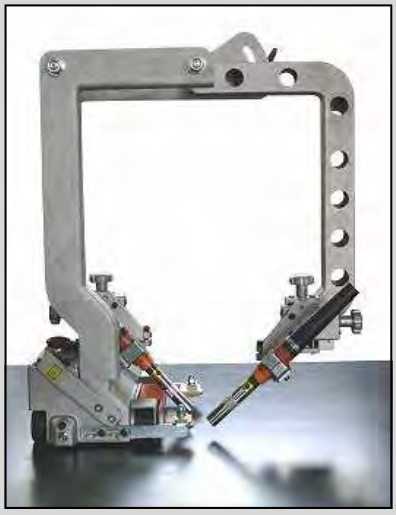


Figure 2. Wel-handy Multi-Ⅱ Weaving



■Other Options

Twin Torch Kit

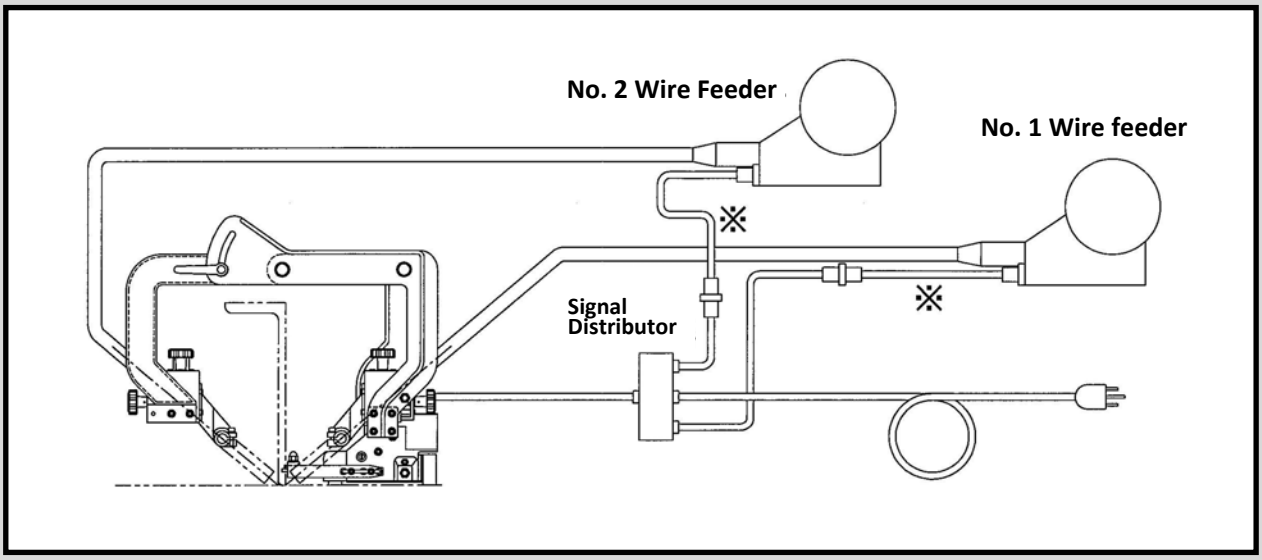


● **Clearance of Max. 500 mm height Vertical Plate**

By placing 2 torches face to face, fillet welding at both sides of vertical plate becomes possible with 1 set of carriage.

- ＊ Clearance of Vertical Plate Height: up to 500 mm.
- ＊ Arm is made of aluminum for light weight with rigid structure.
- ＊ Zigzag tack (stitch) weld is also capable by combination use with Wel-handy Multi-Ⅱ Tack.

※ Twin Torch Kit is available only for strong magnet type of Wel-handy-Multi, Wel-handy-Multi Ⅱ, Wel-handy-Multi Ⅱ Tack. (Standard magnet type is not available due to the risk of fall down.)



Special twin torch box enables interlocking with two welding machines.

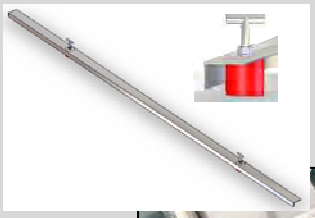
KOIKE

NEW Product

Wel-handy Multi-Ⅱ

Guide Rail (Butt-Weld)

Stock No. 61002282



● **Butt-Welding with Wel-handy Multi**

Simple Guide Rail with Magnet attached at both Ends.
Enables Butt-Welding by Fillet-Welding Carriage;
Wel-handy Series.

Combination use with weaving unit
also enables butt-weld on Y-bevel plates joint.

Guide Rail length: 2M

Guide roller（Various types）

● **Replaceable guide roller**

Stock No. 61006608

Roller itself can be replaced from this guide roller arm after worn-out.
Suitable to heavy duty environment like; shipyards.

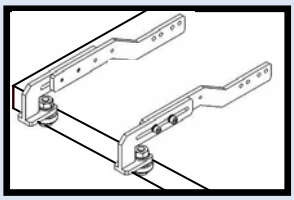
● **Sword shape Guide Roller**

Stock No. 61006609

By sword shape Roller, height to trace on vertical plate can be as low as FL+15mm.

● **Edge Trace Guide Roller**

Stock No. 61004332



The roller traces the edge surface of bottom plate.

Welding can be made without vertical plate to trace.

As another application with Edge Trace Guide roller, welding can be made at corner of column pipe.

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NEW Product

Wel-handy Multi-Ⅱ

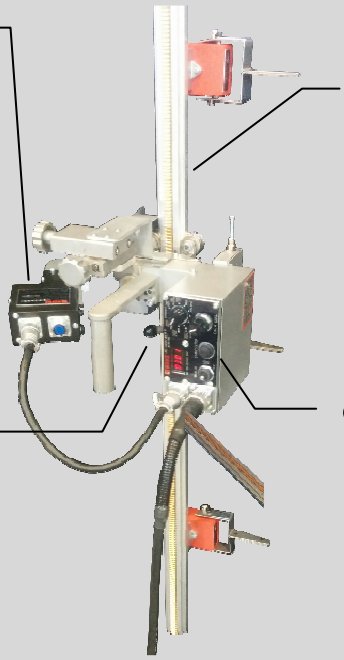
■Special Model: Rail Traverse Type

Utilizing the same 1-D Rail (straight rail) for KOIKE's popular gas cutting machine "IK-72T", a different model of rail-traverse type welding carriage is newly added to KOIKE's lineup.
The same High performance Controller as Wel-handy Multi-Ⅱ series is equipped.

●Weaving Unit (Option)

Useful for vertical-up welding.

WU-3R Weaving Unit
with Extension module connector



●1-D Rail for IK-72T (1.5m)

Light-weight aluminum rail
with permanent magnet allows wide variety of welding position; horizontal downward, vertical, and sideway.

NOTE: Use of other types of rail; such as 2-D and 3-D is NOT covered by warranty, due to its heavier carriage weight than IK-72T, which has a risk of coming off from the curved rail and fallen down.

●Clutch Lever

Easy carriage positioning on and removable from rail with one touch clutch ON/ OFF.

●Operation Panel (common use with Multi-Ⅱ)

High operability realized with the same high performance controller as Multi-Ⅱ series.
"Smart Zero Return" function equipped as unique feature for rail-traverse type carriage.

●Pendant-type Operation Box (Option)

Pendant-type Operation Box
PCR-A

Simply connect PCR-A (Pendant-type Operation BOX) to expansion module connector of WU-3R (Weaving Unit).
Easy and safe editing of welding parameter is made possible even in the middle of welding operation.

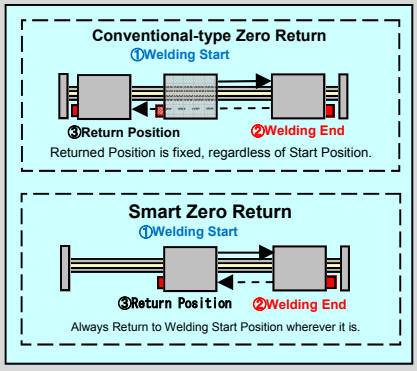
● What's "Smart Zero Return"?

In conventional-type, zero point is fixed to the position where mechanical limit-switch striker is attached; usually at both ends of rail edge.

- ✻ If welding length is shorter than total rail length, carriage goes too far back.
- ✻ The only way to change return position is to adjust the striker position every time.

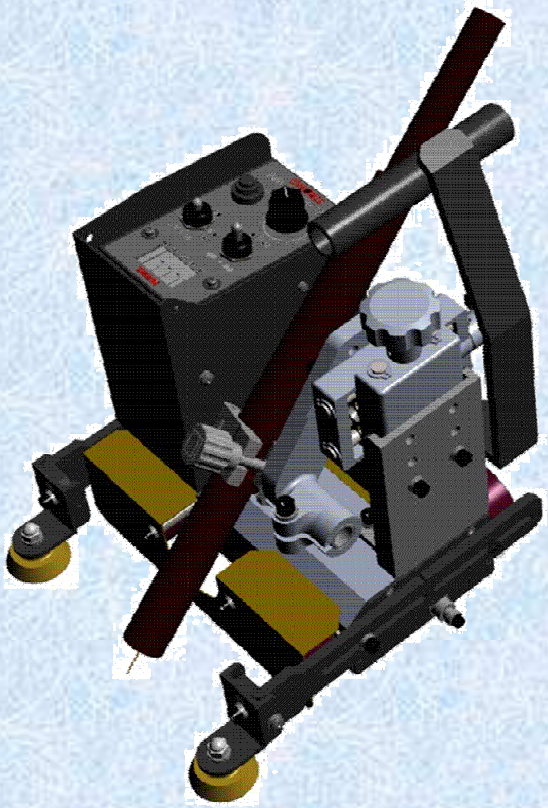
Smart Zero Return always return welding carriage to start position constantly.

- ✻ Built-in drive motor encoder remembers motor RPM; the distance from welding start point to end point.
- ✻ Smart Zero Return starts once Carriage hits the limit switch at the end of rail.

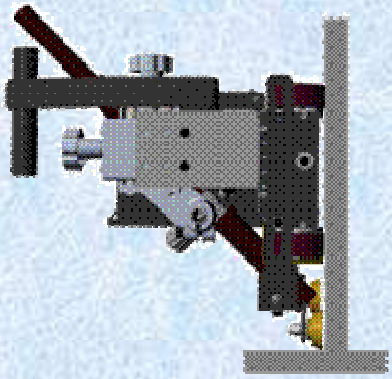


KOIKE

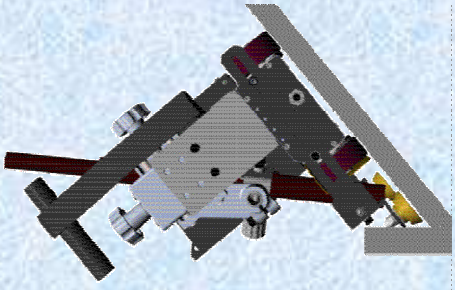
WEL HANDY MINI STRONG



Strong magnet enables not only horizontal fillet welding, but also vertical and overhead position welding. Its compact size can also be utilized in wide variety of welding environment, resulting in increased automation ratio.



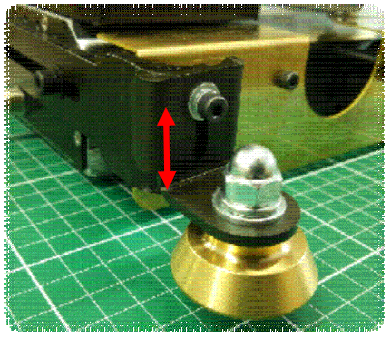
Vertical Position

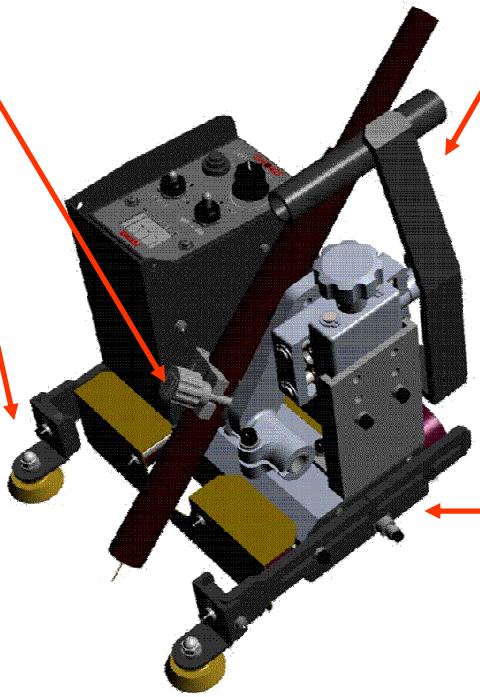


Overhead Position

Torch Holder
（Compatible for both Straight & Curved-type）

Guide Roller with Vertical Slide Adjuster
Quick & easy adjustment of guide roller height can shorten setup time,
resulting in higher production.





Magnet Up/ Down Mechanism Handle Integrated Type
(Patent Pending)
It's troublesome to detach Magnet especially when magnet is strong. But, Wel-Handy MINI-Strong can maintain both strong magnetic force and easy detaching of magnet as you lift up Handle without operating any other levers or button.

Strong Magnet
Magnetic Force: 35 kg
(Conventional type: 20 kg)
Not only horizontal fillet welding, but also vertical and overhead position welding application is possible.

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WEL HANDY MINI STRONG

Drive Speed Display

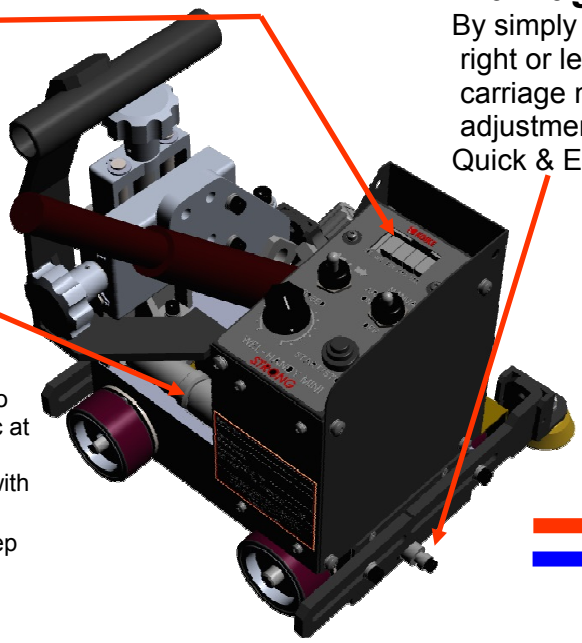
Digital display clearly shows carriage drive speed.

Useful for unskilled welder to set welding parameters.

Overload Detecting Auto-Stop Function

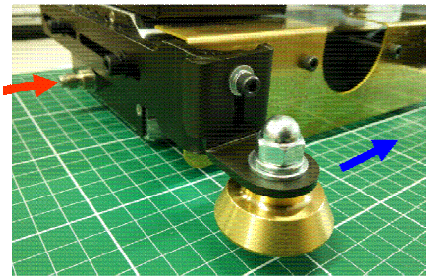
In case carriage accidentally collide with obstacle and stopped during welding operation, Auto-Stop Function activates to stop both its drive motion and welding arc at the same time.

- Reduces risk of damaging gearbox with overload.
- Minimize the welding defect from keep welding at the same spot.



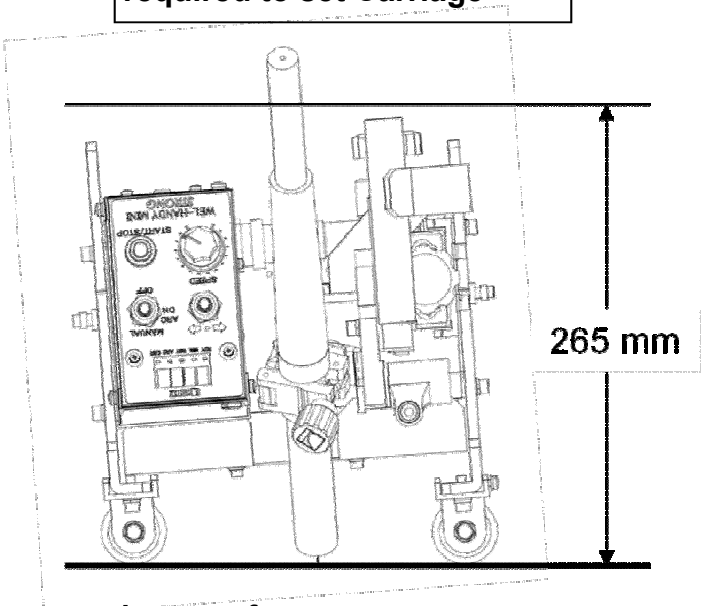
Fine Adjustment of Carriage Start Position

By simply pressing Limit Switch at either right or left side of carriage, carriage moves at low speed for your fine adjustment of carriage (torch) start position.
Quick & Easy setup to start point.



Direction to press Limit Switch
Direction to move carriage at low speed

■Min. Work Area required to set Carriage



In case of Wel Handy Multi: 285mm

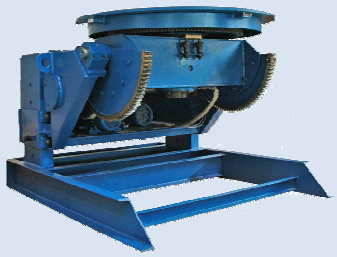
Model Name		WEL HANDY MINI STRONG
Stock No.		
Weight		7.6 kg
Dimension (mm)		320(L) × 260(W) × 300(H)
Traction Force		16 kg
Gap (F.L. ～ Bottom plate of machine)		6 mm
Magnet Up/ Down Mechanism		Integrated with Handle
Drive Method		4 Wheel Drive (Rubber Wheel with Chain Transmission)
Magnet Type		Permanent Magnet
Traverse Speed		100 ～ 800 mm/min.
Tracing Method		Guide Roller (being pushed against vertical plate)
Applied Posture		Horizontal Fillet Welding
Torch Position Adjustable Range	Torch Angle	40°～ 55°
	Up/ Down	45 mm
	Forward/ Backward	45 mm
	Forward/ Backward Angle	5° at both Forward/ Backward
Automatic Stop Function		Limit Switch (at each side of carriage)
Fine Adjustment of Carriage Start Position		Included
Non-welded Part		About 260 mm (in total at both start/ end point)
Electrical Power Cable		Not included (Option)
Welding Torch	Straight (Machine) Type	TOKIN Corporation: **WHM□-□□□S** DAIHEN Corporation: **WT450PC-60D** OBARA Corporation: **OSA6i-6165(N)**
	Curved (Hand) Type	350A, 500A
Torch Holder Diameter		φ16 ～ 20 mm (Compatible for both Straight & Curved-type)
Motor		DC Motor
Input Power		AC100 ～ 240V, 50/60Hz

KOIKE

Introduction to Welding Related Equipment

Ransome P-type Positioner

Lined up with 1.3ton, 2.7ton and 5.4ton load

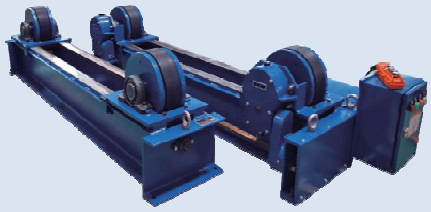


Ransome M-type Manipulator

Lined-up with 1.8m, 2.7m, and 3.6m stroke.

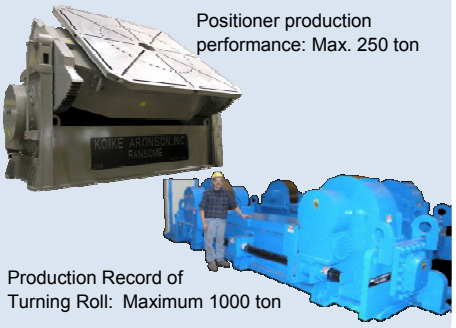
TR-R type Turning Roll

Lined up with 1ton~50ton load



Aronson Large Jigs

Positioner production performance: Max. 250 ton



Production Record of
Turning Roll: Maximum 1000 ton

Universal Balance Positioner

Downward posture provided instantly without power.
Lined-up with 50kg, 250kg, 450kg and 900kg

Welding Fume Collector CAF Series

Flow rate:CAF-100: 12m^2/min
CAF-200: 25m^2/min

Small-Sized Positioner LD-R Series

Standard Machine
LD-R Series

High-performance machine
LD-RW Series positioner coping with automatic circular welding

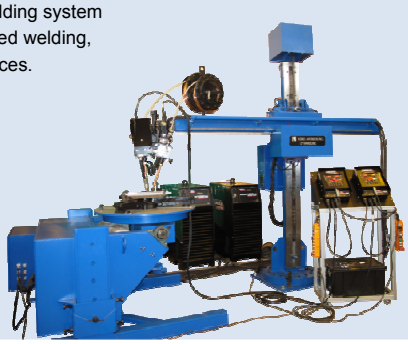
We propose various welding power and system. Power Supply of Plasma and Submerged Welding

We Koike Sanso Kogyo offer a comprehensive line of welding system including power sources of plasma welding and submerged welding, positioners and manipulators with various peripheral devices.

Plasma Welding Power

Made by Kaiyuan Electric Submerged Power

Made by Lincoln Submerged Power



Total system supplier of Gas, Welding, Cutting

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