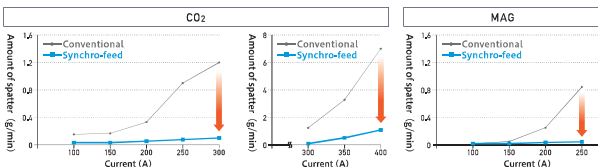


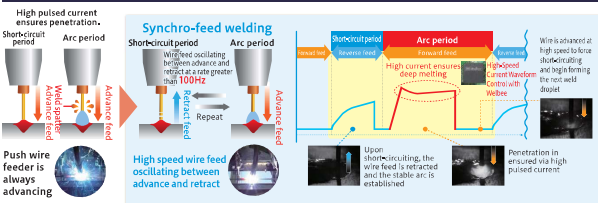
New evolutionary welding mode delivering ultra-low spatter, high quality weld results
Simple setup with reduced maintenance requirements

■ Synchro-feed virtually eliminates welding spatter!

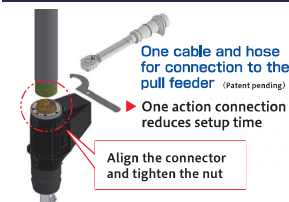
Ultra-low welding spatter (99% reduction), even at weld current in excess of 400A



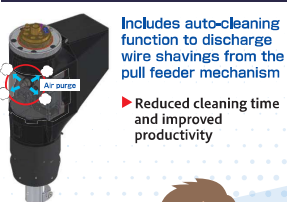
■ Synchro-feed welding process



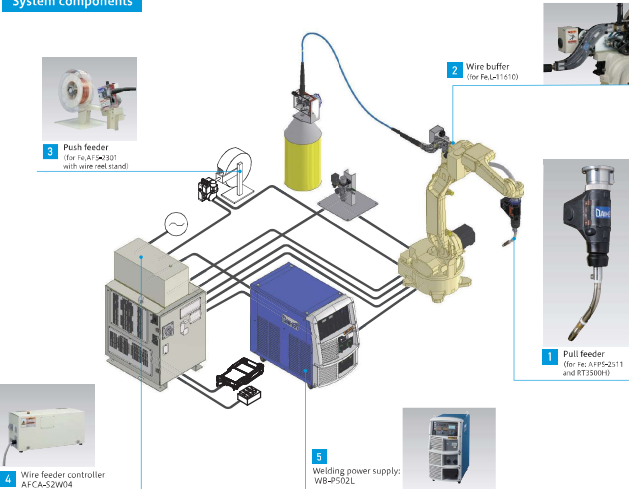
■ Simple connection and configuration



■ Reduced maintenance



System components



■ Applicable Range of Synchro-feed Evolution Welding System

Material	Mild steel	Stainless steel (Bottle control)	Aluminum
Shield gas	CO ₂ /MAG	MIG (98%Ar/2%O ₂)	MIG (100%Ar)
Applicable wire	0.6~1.2	1.2~1.2	1.2
Welding current (A)	CO ₂ : 30~400A MAG: 30~400A	5~400A	40~400A
Welding speed (mm/min)	100%	100%	100%

① The maximum welding current varies depending on the wire diameter and material.
② The rating duty is for an ambient temperature of 40°C (104°F).
③ For use at rated duty ratio of 100%, air for cooling (50L/min, 1.32gpm) or more must be supplied.
④ When WB-4502L welding power source is used.

■ Components by Specification

Item	SynchroFeed	SynchroFeed Lite
Components	Wire buffer Pull feeder Push feeder	Pull feeder
Wire stock system	Pick wire Bore wire Wire line Wire line Wire line	✓ ✓ ✓ ✓ ✓
Applicable materials	Aluminum Steel Stainless steel	✓ ✓ ✓
Welding power source	WB-4502L WB-4502L WB-4502L	WB-4502L WB-4502L WB-4502L

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www.daihen-robot.com/en/

Note: This product and the technology (including software) used in this product are subject to Daihen's Control. When exporting any of them, verify the export regulations, etc. according to the applicable laws and regulations and take appropriate procedures such as notification for export permission to the Ministry of Economy, Trade and Industry.
● The information contained in this catalog is current as of April 2021 and is subject to revision without notice.

DAIHEN

Almega Friendly series II
Ultra-Low-Spatter Technology

Synchro-feed robotic welding system
Synchro-feed Evolution

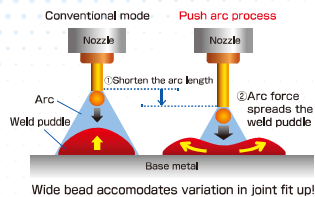
New evolutionary welding mode delivering **ultra-low spatter**, **high quality weld results**
Simple setup with reduced maintenance requirements



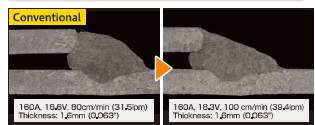
CAT No.R21694

Compatible with various materials such as mild steel, stainless steel, aluminum, etc.
New mode for even higher quality welding

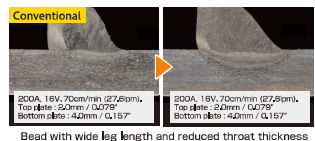
■ Push arc process



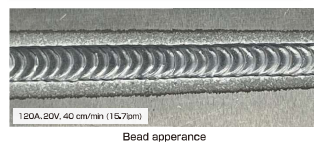
Mild steel



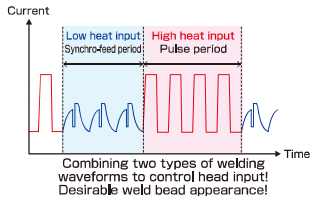
Stainless steel



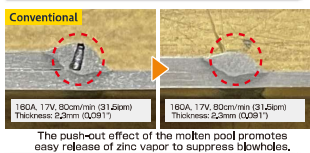
Aluminum [Soft]



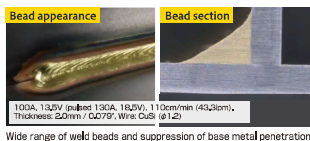
■ Synchro-feed pulse



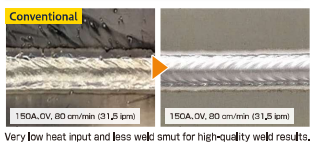
Galvanized



Brazing



Aluminum [Hard]



■ Applications

Automobiles

● Bumper crash box (Aluminum)

Problem Wrong thickness, melt-off
Solution Synchro-feed pulse

Adjusting the ratio between Synchro-feed and pulse welding for fine control of heat input



● Suspension Lower Arm (galvanized steel sheets)

Problem Joint gap / target shift margin, Spatter, blowhole, multiple welds

Solution Push arc (wide bead)

Push arc enables wide bead, low spatter, and zinc vapor discharge. Predictive control maintains low spatter performance even in simultaneous welding by multiple units.



● Seat frame (high-tensile steel)

Problem Ultra-thin plate welding (0.6mm / 0.024") joint gap variance and targeting misalignment

Solution Push arc (Wide bead)

Synchro-feed eliminates burn-through on ultra-thin material. Reducing spatter adhesion and weld contamination through ultra-low spatter performance of Synchro-feed.



● Pipe frame (aluminum)

Problem Bead appearance

Solution Stitch pulse welding
 TIG-like bead formation

TIG-like, stacked bead appearance by stitch pulse welding mode
 High-production alternative to slow and labor-intensive TIG welding



Motorcycles and bicycles

● Tank (Iron)

Problem Misalignment tolerance

Solution Push arc (wide bead)

Ultra-low spatter achieved by Synchro-feed welding. Push arc's wide bead better accommodates joint fit up variation



● Muffler exhaust manifold (stainless steel)

Problem Gap tolerance, wrong plate thickness
Solution

Push arc (wide bead)

Push arc's wide bead better accommodates joint fit up variation. Also improves high-speed welding performance.



Construction Machinery

● Cabin (Iron)

Problem Prevention of spatter adhesion and insufficient penetration in medium-thick plate welding
Solution Weld with 450A

High current, ultra-low spatter welding delivering deep penetration with reduced weld spatter.



Other

● Grating, building scaffolding, ladder, etc.
 Contributes to improved welding quality by reducing spatter in many applications.