


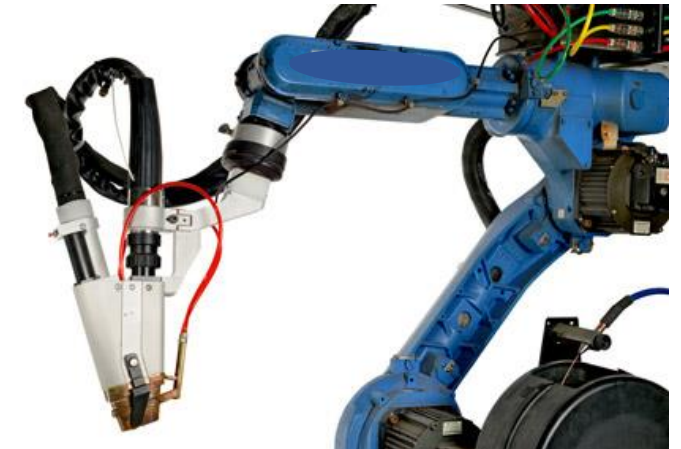
Smart Welding Solutions

Feb 2024



Who we are ?

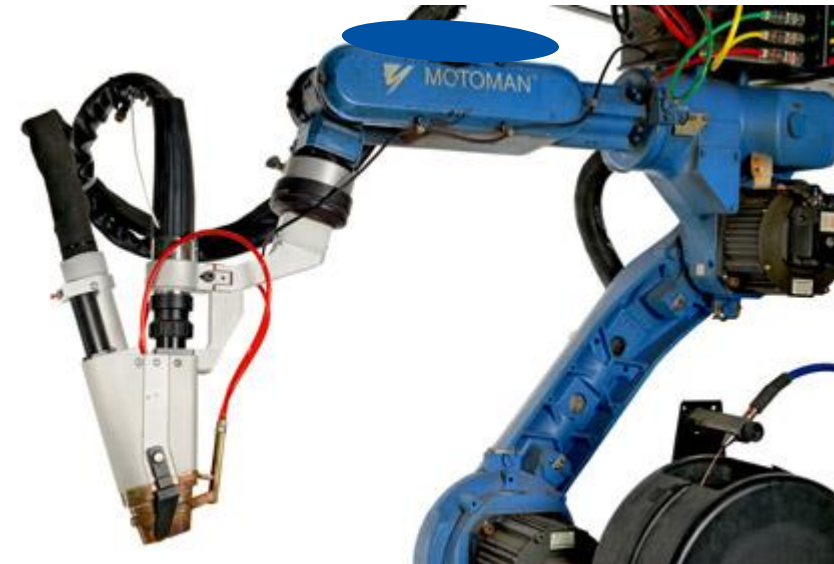
- Weldobot Ltd. is a part of Chemo LTD, a large Infrastructure, Gas Pipeline and Construction company est. 1965. 
- **Weldobot Ltd.** started its present phase **2019** to develop and market innovative advanced Automated pipeline and Industrial Welding Solutions.
- **Weldobot Ltd.** is an **engineering-oriented company** specialized in the fields of Mechanics, Electrical and Electronics, Software and Algorithm development.
- The first commercial product is the **AROW** an orbital welding for Pipelines.
- In 2017, the company introduced the **SuperMIG®** technology – a **Hybrid Plasma & MIG arcs welding system** in one Welding Torch .
- Sales channels are in Europe, USA and China



The SuperMIG[®]

The SuperMIG®

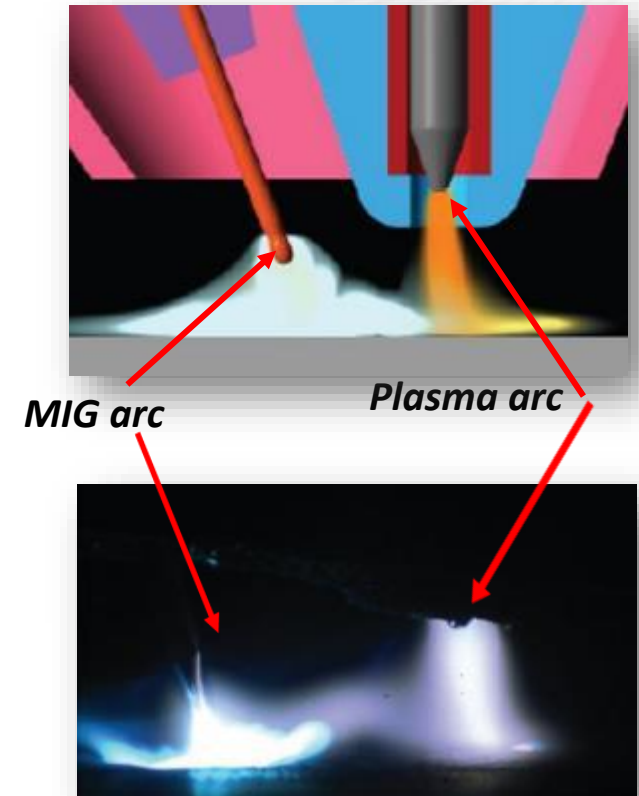
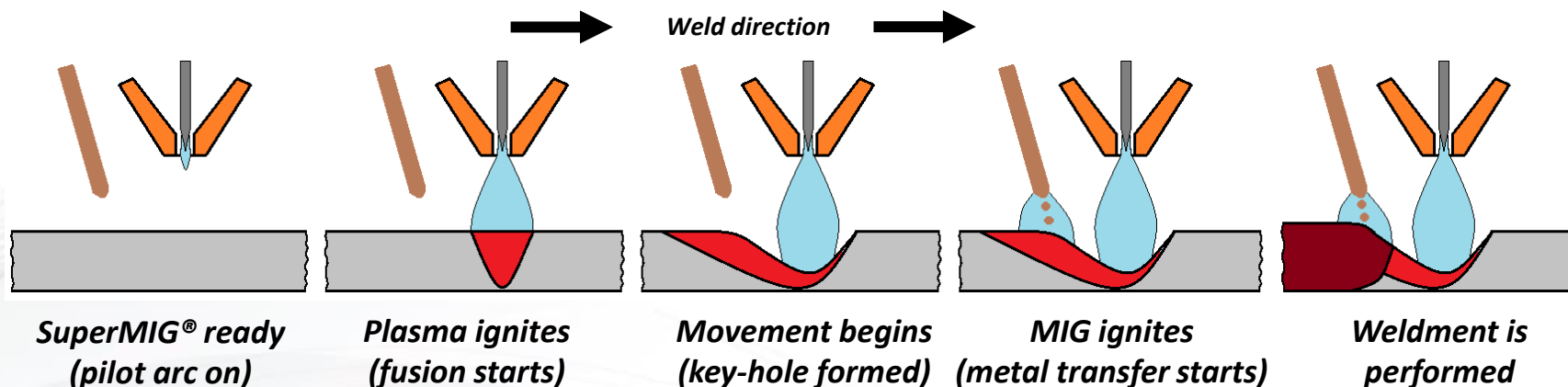
- A proprietary welding system that **combines Plasma and MIG arcs in one Welding Torch** for fast and efficient welding of thick and long steels.
- Used mainly to **weld thick and long welds** of all kind of steels like Mild steel, HSS, Stainless steel, Armored steel. (**Future application includes AL welding**)



SuperMIG[®] - Process Details

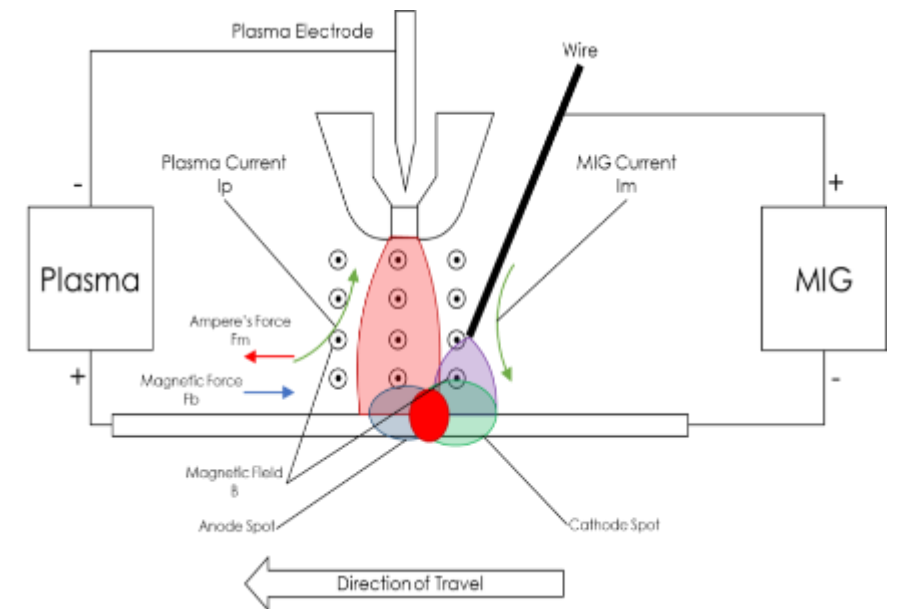
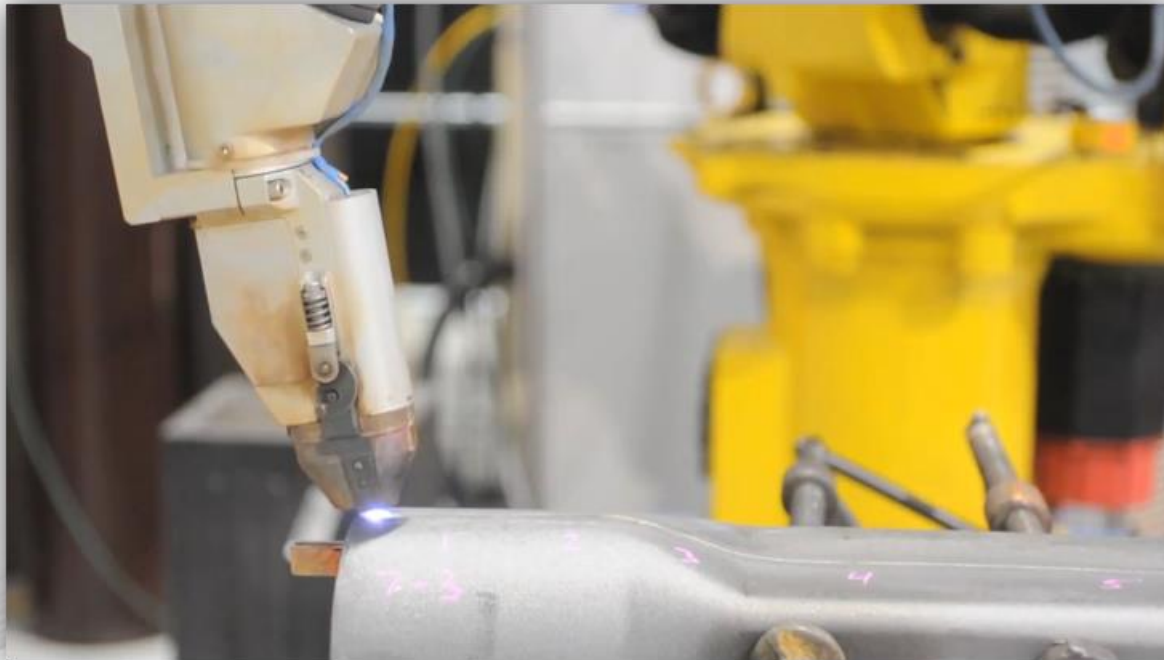
- Energy necessary to penetrate and melt the base material is provided by the Plasma arc
- Filler metal to compose the weld metal is provided by the MIG arc.
- Both arcs working simultaneously in the SuperMIG torch

Process Sequence



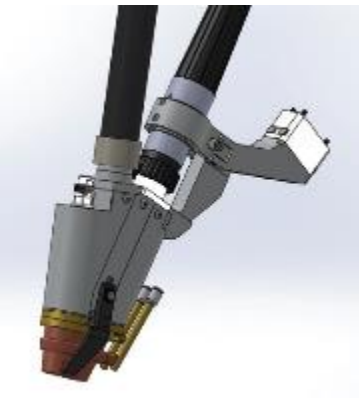
SuperMIG[®] - Process Innovation

A **Magnetic field coupled to the torch nozzle** is used for controlling the distance between the two Electric Arcs:



SuperMIG®

Torches



HD T (Heavy Duty)



MD (Medium Duty)



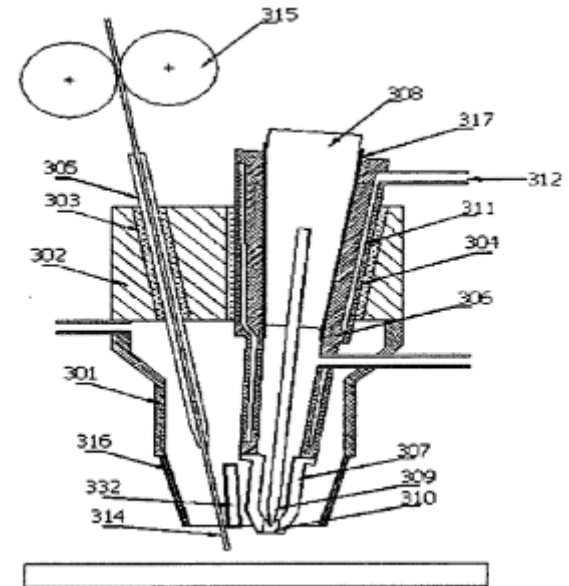
HDS (HD Slim)

WCM – Welding Control Module



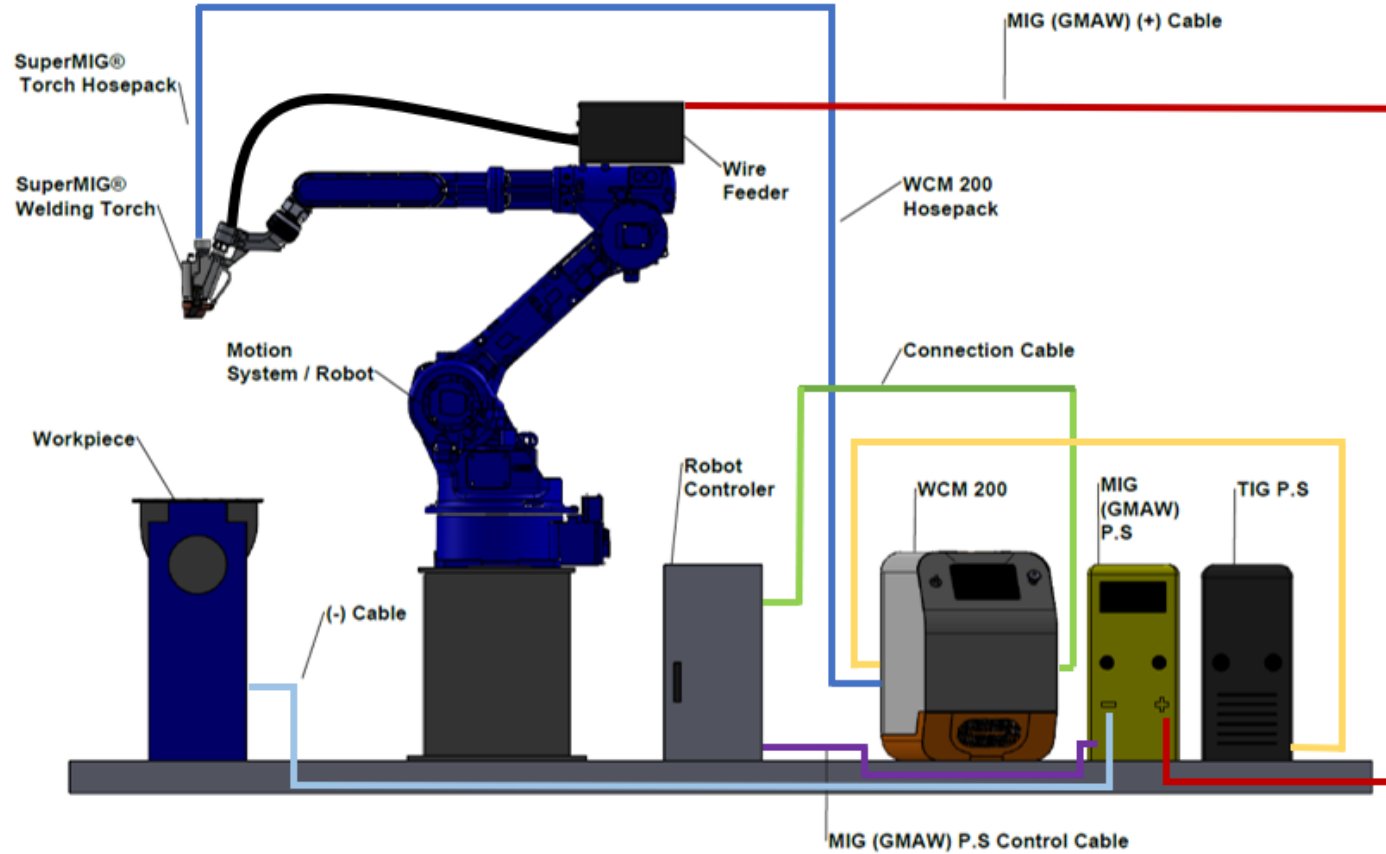
SuperMIG[®] - Process Description & Advantages

- Welding system comprising a combined torch including both processes where arcs intersect at an impingement point,
- The system interfaces (torch and WCM) are designed to be integrated with most common MIG systems and most common industrial robotic or “hard automation” devices.
- **Outcome:**
 - Overall, **much faster welding.**
 - **Rapid, single-pass,** one side welding
 - **No** edge-preparation or **beveling** required (up to ½ inch thick)
 - **Save** on **consumables, wire, gas** and **electricity** costs
 - **No slag removal**
 - **Deep weld penetration**
 - **Reduced heat input** (narrow HAZ)and spatter
 - Clean and **environment friendly**
 - **Increased productivity & profitability**
 - **Fast ROI**



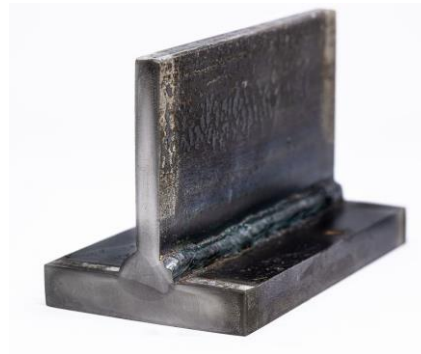
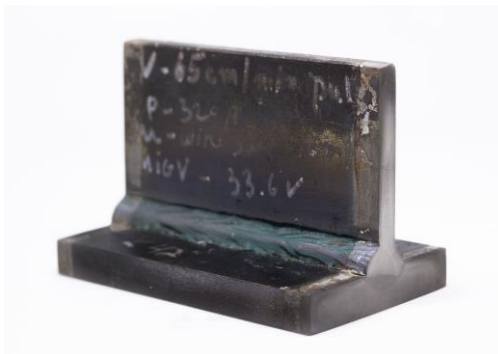
Patent protected

SuperMIG[®] - System Configuration



A complete solution for robotic and hard automation systems

SuperMIG[®] - Welding Samples



All samples welded in one pass and without perpetration (beveling)

SuperMIG[®] - Return of investment calculator

Butt Welding Carbon Steel 10 mm	Welding Technology			
	Submerged Arc	Plasma	MIG	SuperMIG
Activity and cost				
Length of each parts (meter)	8	8	8	8
Number of parts	1,000	1,000	1,000	1,000
Beveling / Machining required ? (Yes/No)	Yes	Yes	Yes	No
Additional cost of preparation per part	€10	€14	€10	€0
Number of passes per weld	2	3	2	1
Total combined welding length per part (meters)	16	24	16	8
Welding speed (m/min)	0.60	0.25	0.45	0.70
Total welding time per part (minutes)	27	96	36	11.5
Labor cost/part (average manpower cost €/h 40)	€ 17.78	€64.00	€23.70	€5.93
Cost of material, wire, gas, flux (per part)	€6.67	€9.60	€4.47	€2.07
Heat Input (KJ/cm)	17	24	13	10
Additional cost of straightening post welding	€8	€10	€2	€0
Total cost per part	€42.45	€96.60	€40.44	€10
Total Cost - 1000 parts	€42,444	€97,600	€40,444	€10,000
Saving by using SuperMIG	- €32,444	- €87,600	- €30,444	€0

SuperMIG[®] - Typical Applications

Applications:

- Mainly welding 5mm thick and above
- Boilers (steel & stainless)
- Heat exchangers
- Construction parts-H/T beams
- Crane Booms Silos & containers
- Shipyards
- Armored steel constructions
- Earth moving machines



SuperMIG[®] - Success stories

Leading industries use our advance products.

LIEBHERR

TELEMOND



ZOOMLION



 **SANY**



 **CHEMO AHARON**
ENERGY INFRASTRUCTURES



 **HEISEY MECHANICAL, LTD.**

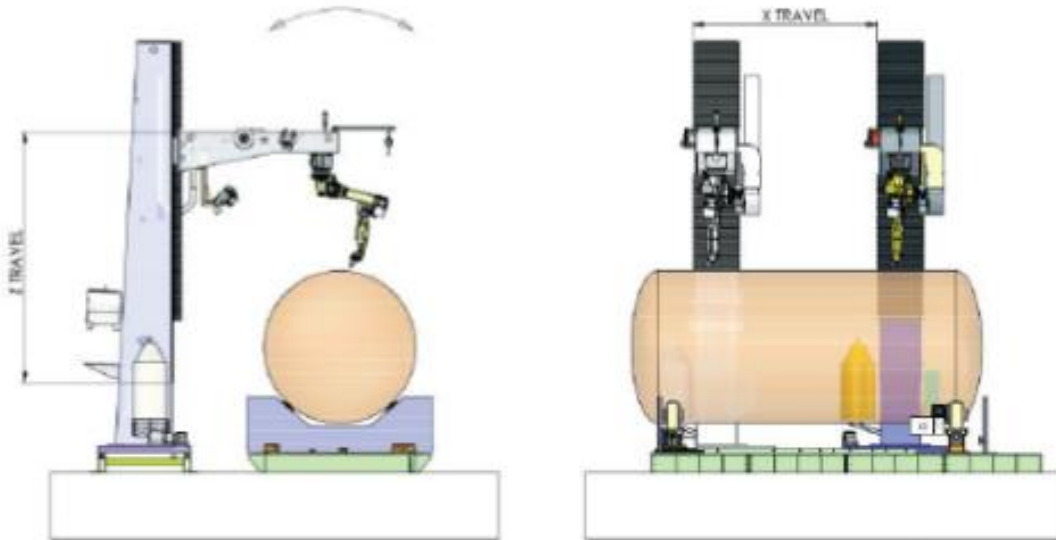


SuperMIG® - Reference Customers

Customer	Country	Application	Material type	Welding type	position
Telemond - Liebherr sub- contractor	Poland	Crane Booms	HSS	Butt Joint	PA & PC
Heisey	USA	Silos & containers	Stainless steel	Butt Joint	PA
Konstruktion	Poland	Metal construction elements	Mild steel	Butt Joint	PA
Metal- SPAW	Poland	Steel structures	HSS	Butt & T Joints	PA & PB
Wacker Neuson	Germany	Telehandlers	HSS	Butt & T Joints	PA & PB & PC
Defense industry	Germany	Shelter cabinets	Armored steel	Butt Joints	PA
Defense industry	Israel	Cylinders – 20mm wall thick	Mild steel	Butt Joint	PA
Zoomlion	China	Crane Booms	HSS	Butt Joint	PA
Zoomlion	China	Concrete Truck Pump	HSS	Butt Joint	PA & PB
Sany	China	Crane Booms	HSS	Butt Joint / Lap Joint	PA & PB
Foton	China	Truck cranes	HSS	Butt Joint	PA

SuperMIG[®] - Application note

SuperMig[®] Application Note: Automated Containers / Seamers Welding



General

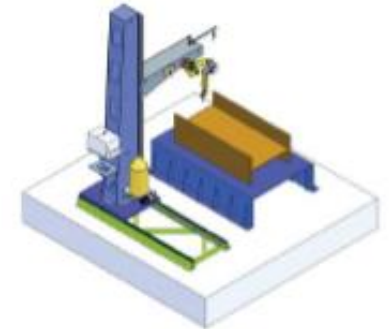
Weldobot offers end-to-end solutions for various manufacturing production scenarios. Leveraging Weldobot's local integrators network, we offer complete robotic welding cells including, tailored design, infrastructure preparation, integration and service for various production lines and manufacturers.

System overview

- Dimensions and travels per customer request.
- Modular building blocks:
 - XYZ mobile platform
 - Articulated welding arm
 - SuperMIG Welding system
 - Turntable & positioners
 - Operating software
 - Seam tracking

Applications for manufacturers

- Boilers
- Seamers
- Autoclaves
- Heat exchangers
- Construction parts – H/T beams
- Silos & containers

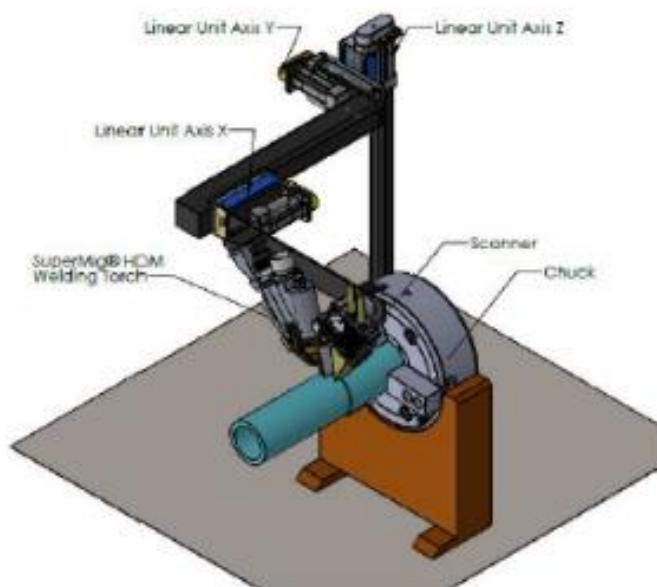


Features and Advantages

- Fully Automated process including seam tracker
- Adjustable size and geometry
- High productivity - 1 pass one side up to 12 mm thick.
- Scalability
- No need to bevel before welding .

SuperMIG[®] - Application note

SuperMig[®] Application Note: Automated Stationary Pipe Welding



General

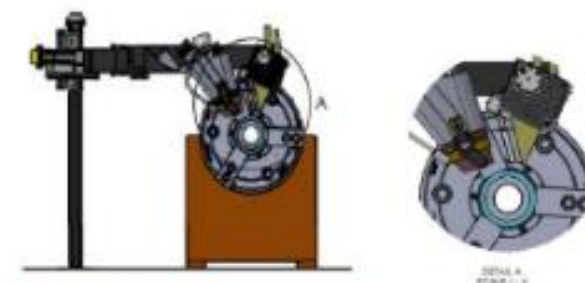
Weldobot offers end-to-end solutions for various manufacturing production scenarios. Leveraging Weldobot's local integrators network, we offer complete robotic welding cells including, tailored design, infrastructure preparation, integration and service for various production lines and manufacturers.

System overview

- Dimensions and travels per customer needs.
- building blocks:
 - Rotating table with chuck to hold the pipe
 - 3 linear servo controlled axes, XYZ.
 - SuperMIG Welding system
 - Operating software
 - Scanner for seam tracking

Applications for manufacturers

- Automated pipe segments welding

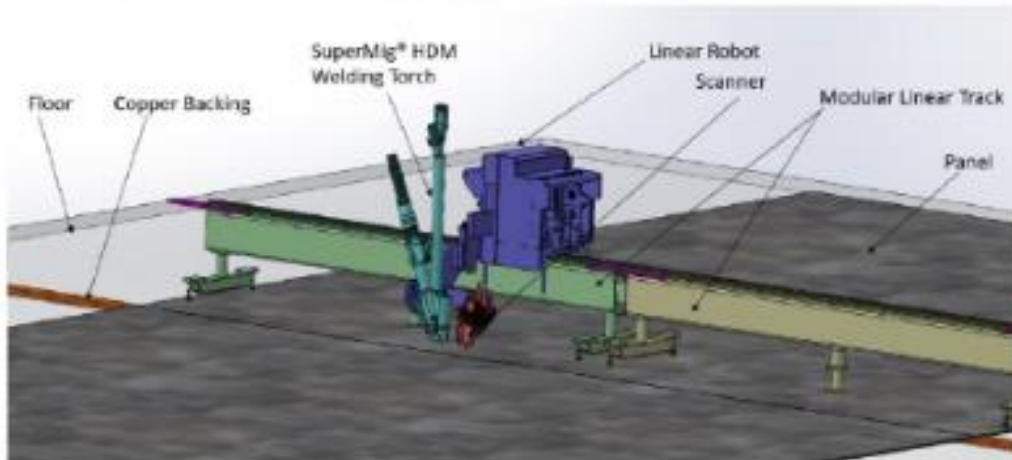


Features and Advantages

- Fully Automated process including seam tracker
- High productivity - Weld with 1 pass up to 12 mm thick.
- No need to bevel the pipes before welding .
- Clean and uniform weld
- Save of welding materials
- Simple installing and operating.

SuperMIG[®] - Application note

SuperMig[®] Application Note: Modular & linear robot for long welding

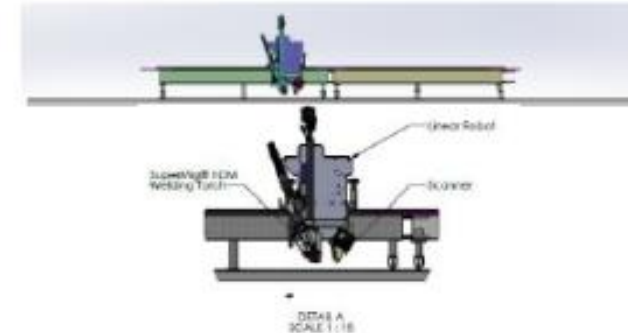


General

Weldobot offers end-to-end solutions for various manufacturing production scenarios. Leveraging Weldobot's local integrators network, we offer complete robotic welding cells including, tailored design, infrastructure preparation, integration and service for various production lines and manufacturers.

System overview

- Linear, Laser guided Welding Robot
- Linear and modular segments of 2 m each
- Length and travels per customer needs.
- building blocks:
 - 2 meters modular segments
 - 3 linear servo controlled axes, XYZ.
 - Scanner for seam tracking
 - Integrated wire feeder
 - SuperMIG Welding system
 - Operating software



Applications for manufacturers

- Long panels welding
- Shipyard panels

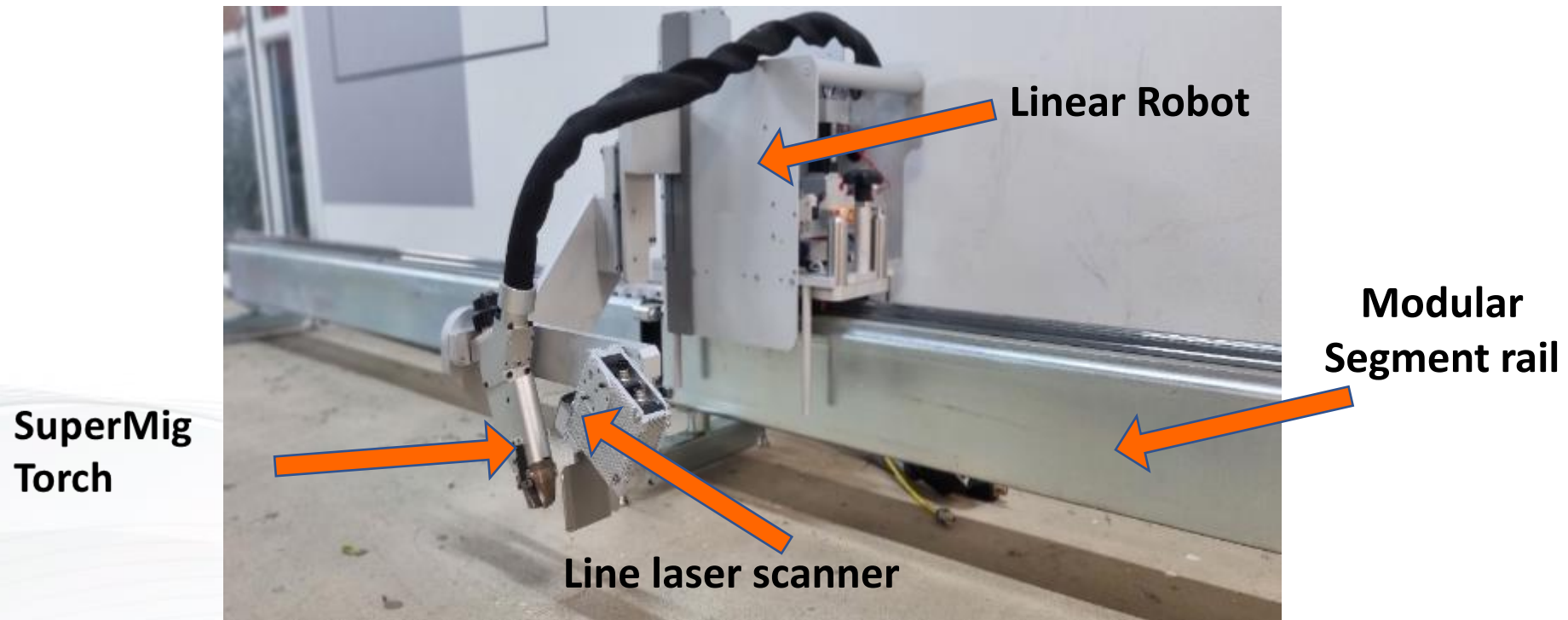
Features and Advantages

- Fully Automated process including seam tracker.
- Modular solution can easily adjust to any length.
- Scalability
- High productivity - Weld with 1 pass up to 12 mm thick.
- No need to bevel before welding .
- Clean and uniform weld
- Save of welding materials
- Simple installing and operating.
- No need to bevel before welding.
- One Pass for welding up to 12 mm thickness.
- Clean and uniform welds

SuperMIG[®] - Complementary products

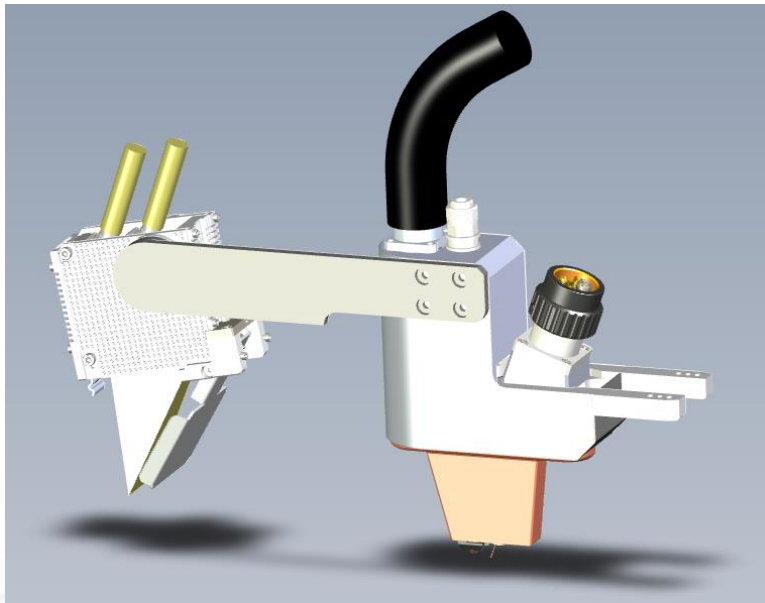
Linear robot for long welding

- **Linear Laser guided Welding Robot** for SuperMig
- Linear and modular segments of 2 meter each for long welds equipped with the SuperMIG[®]



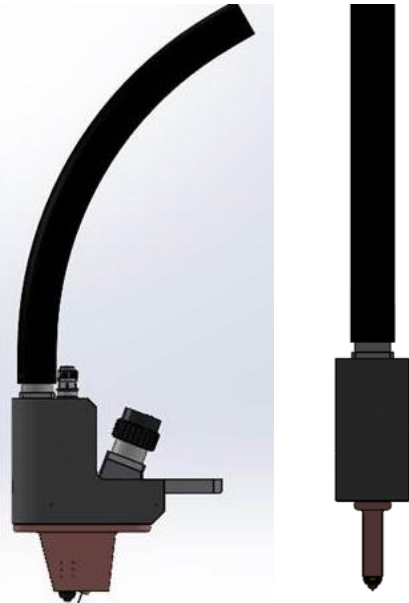
SuperMIG[®] - Complementary products

Narrow Gap torch



with optional Laser Scanner

Industrial Narrow Gap torch design



R&D Prototype

Thank you

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www.weldobot.com

