



Plasma Laser Technologies Ltd.

Line of Business

Development and Manufacturing of Hybrid Welding Technologies and Applications

Established

1995

Leading Executives

Yoav Navon
CEO

Dr. Igor Dykhno
CTO

Plasma Laser Technologies Ltd. ("PLT") designs and produces a patented & unique line of hybrid welding systems, named Super-MIG®, aimed at offering a substituting technology to the traditional MIG/MAG, SAW, as well as the laser-based welding installations in the industrial market.

PLT is targeting welding applications in industries requiring automation (i.e. using robots or "hard automation") within manufacturing lines: automotive (under body, ride control - chassis, frames, cradles, shock absorbers, various types of brackets, bumpers, exhaust & catalytic converters), military, utilities & power generation, boilers, tanks & pressure vessels, white goods



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products, transportation & heavy machinery, tubes & piping, shipbuilding and Tier-1/Tier-2 suppliers for above production fields.

PLT's hybrid systems weld almost all known applications using plasma, MIG/MAG or SAW, and some laser, capable of welding all types of welds: butt, fillet, overlap, seam, spot and stitch.

The technology also provides a uniquely efficient solution for welding of different materials, by offering specific and specially designed solutions: regular & stainless steel, Hi-Strength, armored and DP, Aluminum, Titanium and other alloys, different coated materials, incl. galvanized, Zinc & AL coated.

Currently, the company offers the following models:

- **Medium duty ("MD")** - for ferrous steels in thicknesses of up to 12-14 mm.
- **Heavy Duty ("HD")** - for ferrous steels and Titanium, in thicknesses of up to 40 - 50 mm.
- **Very Heavy Duty ("SHD")** - for ferrous steels in thicknesses of up to 300mm ("Narrow Gap" technique).
- **Aluminum system** - for welding of AL alloys in thicknesses of up to 20mm.
- **Hard Facing/Overlay system.**

The Super-MIG® Hybrid system combines two power sources - MIG/MAG and Plasma Arc - into one operational welding torch. The patented process synchronizes the major advantages of a plasma arc for deep penetration with the high arc efficiency and metal transfer of the GMAW.

The system combines in one processing torch both a consumable electrode (MIG-GMAW) and a non-consumable electrode (plasma arc), by placing the axis of both in an acute angle, facing the work piece. The above axes are placed in a plane and intersect each other at the work piece near the weld line, with the consumable electrode disposed outside the constricting nozzle. The interaction between the plasma arc flow and the MIG arc promotes wire heating and current transfer at the anode spot (at the end of the GMAW filler wire) where the molten weld metal droplets form and subsequently detach. A magnetic force is established as a result of the interaction between the electric currents passing through the two electrodes. This magnetic force causes deflection of the plasma arc towards the front of the welding pool, thus compensating for the plasma arc's natural tendency to trail behind the torch axis during high speed welding. The resultant effect is a substantial increase in the plasma arc rigidity and stability leading to a substantial increase in penetration depth and welding speed, as well as much less distortion of the work-piece and much less spatter.

PLT operates from Yoqne'am, Israel, and offers its products through nominated distributors in the U.S, West & East Europe, Japan, China and India. The company's products have been introduced between 2008 and 2010, and have seen a steady growth ever since. All products are CE approved and conform with all necessary safety regulations and standards.