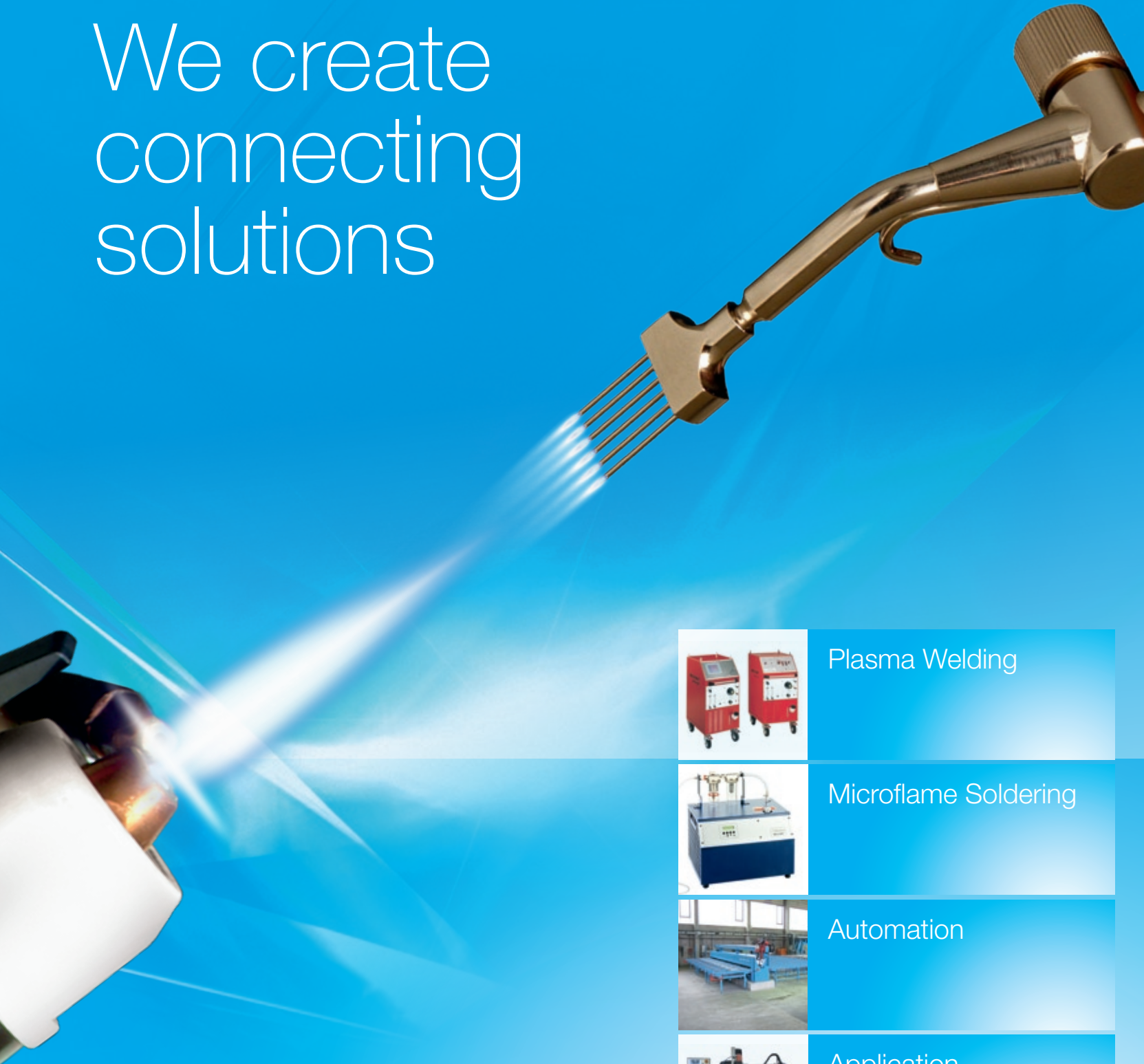


We create
connecting
solutions



Plasma Welding



Microflame Soldering



Automation



Application
Technology

With us, your welding processes are in safe hands ...

Since 1972, MIG-O-MAT has been developed forward-looking welding technologies and produces the corresponding appliances and plants in the fields of plasma welding and microflame soldering.

Just with the plasma technology in connection with automatized or partly-automatized surroundings, especially safe and economic welding processes are possible.

With our experience of decades and our mature and more and more improved products, we are able to offer our customers an optimal support starting with the advices regarding the design up to the company during the production process. If requested, we produce sample series until a trouble-free operation process is secured.

As the appliances are developed and produced by ourselves, we are able to react with a maximum of flexibility to the existing requirements and conditions and so, we reach tailor-made solutions with regard to the application.

Again and again our customers are enthusiastic – as especially in cases of a difficult problem definition, by which a conventional welding technology is not offering satisfying results, we convince by effectiveness, economy and process security.

Not for nothing, MIG-O-MAT is belonging to the market leaders in the fields of plasma welding and microflame soldering and serves customers worldwide, who want to play safe with the high quality of the MIG-O-MAT-products „Made in Germany“.

MIG-O-MAT is part of the worldwide acting UNIWELD Group, producing i. a. the high-performance welding units for the aviation and aerospace sector, the installation of power stations, steel- and container production and for the large space tube production.



Plasma Welding

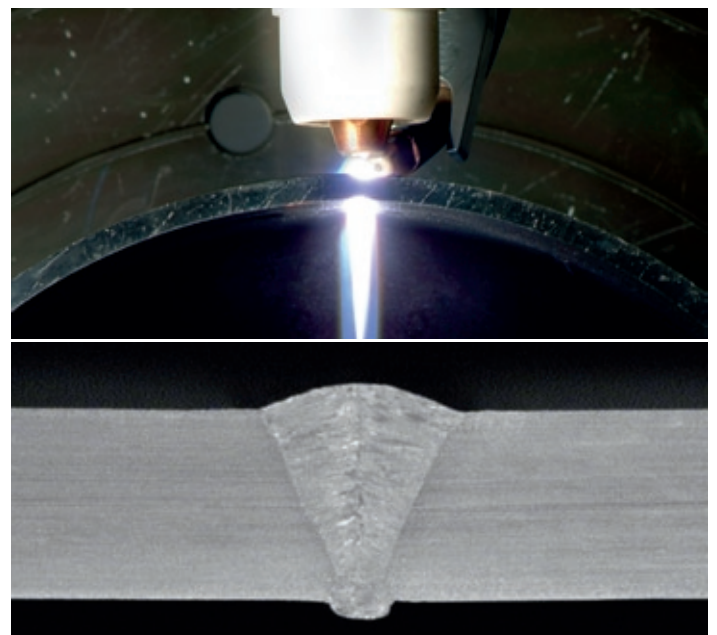


Highest processing security, best quality and productivity: Everything speaks for the MIG-O-MAT plasma welding solutions.

There is one solution for demanding welding tasks: MIG-O-MAT is producing plasma welding appliances and plants, which are offering the advantages of this innovative joining technology: Economic, fast and process-oriented, suitable for material thicknesses from 0.1 to 10 mm, with well arranged Siemens SPS control panel for manual operation up to the use of fully-automatic plants.

Illustrations:

- 1 *Stainless steel bellow, material thickness 0.20 mm plasma longitudinal seam welding without filler wire*
- 2 *Plasma short time welding of Omega-lock at stamping parts*
- 3 *Plasma short time welding at parts for turbo chargers*
- 4 *Float, circular weld, gas-tightly micro plasma welded*
- 5 *Plasma welding at pressure-measuring cell*
- 6 *Plasma circular seam welding without additional material*



Micrograph 8 mm, single-layer without seam preparation

Plasma Welding

Convincing advantages

Plasma welding

- Little draft
- Very good reproducibility during the automatic welding operation
- Higher welding speed in comparison with the TIG-welding process
- Exactly adjustable penetration
- Spatter-free welding operation
- Seam width independent of the arc length
- Higher tolerances as with the laser are possible
- Reliable ignition of the arc
- Electrode is protected

Micro plasma welding

- Welding from a current strength of 0.5 amps
- Welding of foils and screens
- Manuel and automatized welding
- Easier and more favorable with regard to the price as the alternative laser welding
- Repair of tools

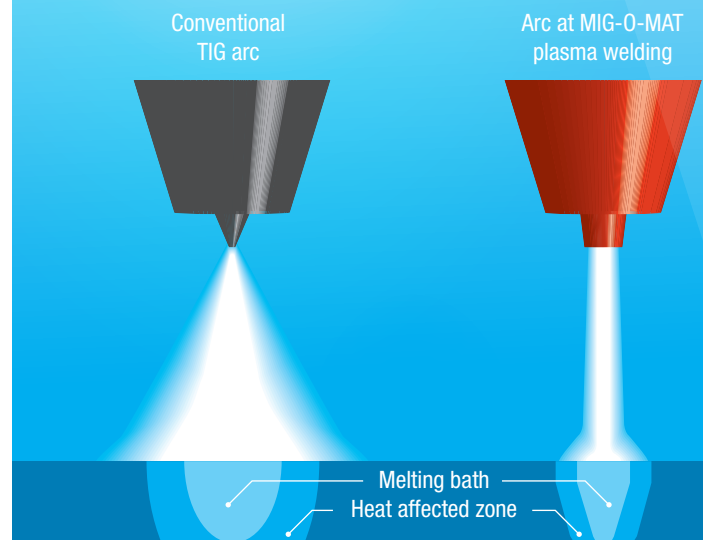
Plasma key hole welding

- No edge preparation up to 10 mm
- Single-layer welding up to 8 mm, suitable for stainless steel, Carbonized steel, DUPLEX steel
- Especially suitable for containers and apparatus construction, Bottom and tank production
- Optimal for the automatized welding operation and a high productivity
- Little energy consumption
- Lowest operation costs per meter weld seam
- High process security

Plasma short-time welding

- Welding times from 0.02 seconds
- 100% arc ignition
- Extremely high reproducibility
- Service life of wearing parts:
Up to factor 30 longer compared with TIG welding
- No hf-ignition for the welding arc

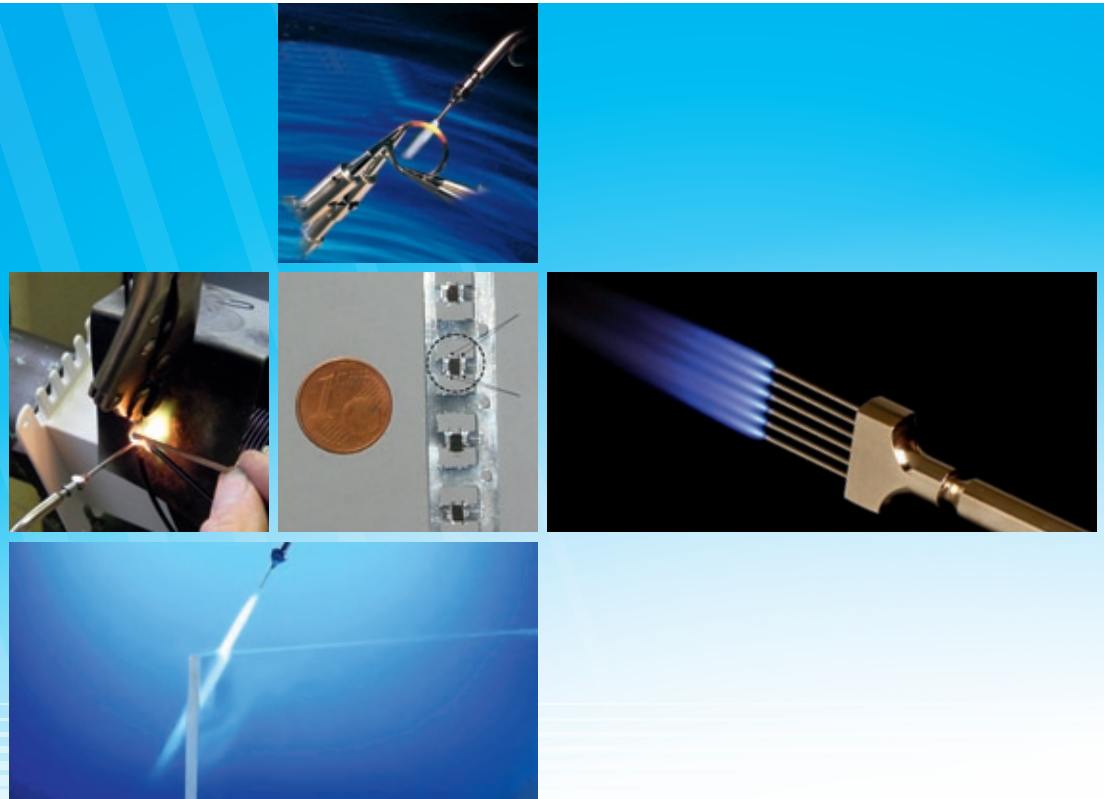
The result is:
Welding with highest performance and maximum control.



One of the most important advantages of plasma welding is the exactly defined shape of the arc. If the spreading factor of a conventional TIG arc is still about 45° , a plasma arc has only 6° combined with a much higher energy density.

Therefore, the plasma melting zone has at the same depth only half of the size of the TIG melting bath; also, the heat affected zone is reduced considerably. The welding process is carried out more precisely and can be much better controlled.

Microflame Soldering



Reproducible results by precision and a high operational reliability

MIG-O-MAT microflame soldering and welding appliances have their own gas production. By electrolysis is generated from distilled water a hydrogen-oxygen mixture as fuel gas for the micro burner. During the combustion process are mixed the gas components without any residues to fleeting water vapor.

Microflame soldering appliances are used, where are requested highest requirements to precise micro soldering and welding works in industry and craftman's business, e. g. medicine technology for the production of catheters and operation instruments, at the production of motors in the electrical industry, current transformers and cable harnesses as well as in the field of dental technology or by jewellers and designers of jewellerys.



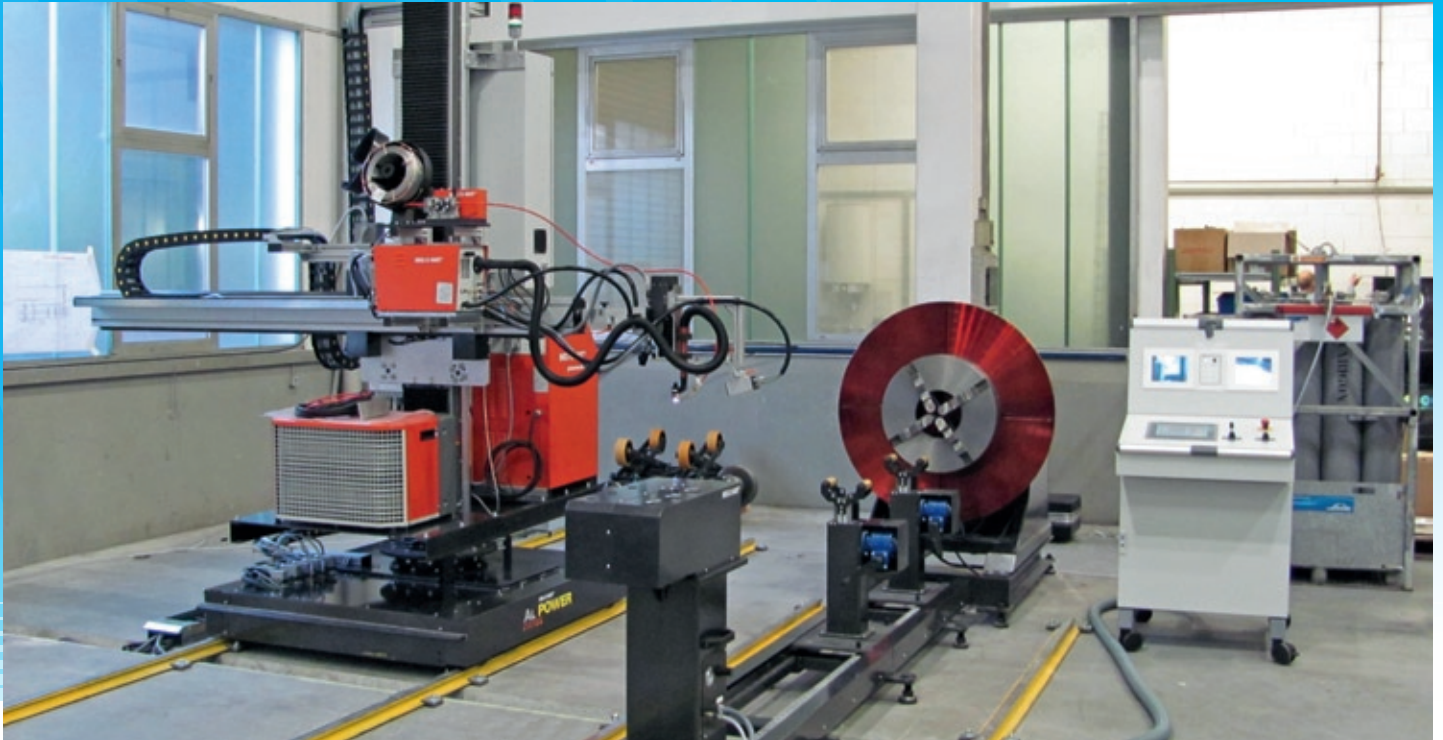
The fine flame reaches a temperature of abt. 3.000 °C. By that can be melted all kinds of metal, glass and other material.

Welding, hard soldering, soft soldering and thermal treatments are important applications. By a fan-shaped flame microflame appliances are ideal for the polishing of acrylic glass.

Either for automatized application or for manual works, MIG-O-MAT appliances offer always the same constant structure of the flame, continous readiness for operation, low operation costs and an uncompromising product quality, which is reflected by a safe function during decades.

Talking about safety: the appliances produce just enough fuel gas as the torch needs in each moment of operation. By an integrated automatic tightness test, we guarantee the highest level of operational reliability.

Automation + Application Technology



Solutions in accordance with customers' requirements

Besides product development and production, solutions in accordance with customers' requirements are a main working field of MIG-O-MAT. By that, we support our clients especially with solutions for specific requirements in the field of plasma welding.

MIG-O-MAT offers an extensive range of automatized solutions for microflame soldering and plasma welding, starting with standard components like turntables and seamers up to complex automation solutions.

We have the necessary know-how to use perfectly the advantages of the plasma welding and to integrate the process optimally in the production process. So, we reach best results with regard to the highest standards at productivity, efficiency and quality.

Services

- Advicing and training
- Test welding and welding of small series
- Solution of welding problems
- Plasma welding training
- Process optimization

Range of Application

- Apparatus and container production
- Seamers and supports
- Special solutions
- Microplasma, plasma and plasma keyhole welding processes



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