

Welding Automation

Trendsetting and safe
to unleash your
welding potential.



Mechanized welding



Automated welding



Overlay welding

Space for new technologies

Two locations for the development, engineering, and production of turnkey welding systems: Wels and Steinhaus in Upper Austria.

More than 45 years of experience as a provider of complete solutions

> 3.500

installed systems

> 2.000

active customers

> 11.000 m²

factory space

154

employees

45

countries

Welding systems with foresight

Since 1975, we have been developing mechanized and automated welding systems at our two locations with an eye to the future. Many of our solutions can be retrofitted and expanded: with welding processes, sensor technology, software updates, and more.

Technological leadership

Advanced power source technology stabilizes the arc and, in precise interaction with all system components, ensures the best possible welding results on all materials. Modern monitoring sensors control torch guidance and compensate for component tolerances. Data documentation systems help optimize the welding process.

Flexible modular system principle

Together with the customer, we analyze the respective welding technology requirements. We then design the individual solution. For this purpose, we have an extensive modular system of standardized components at our disposal.

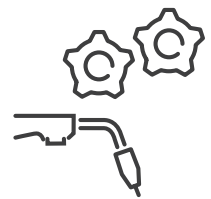
One contact person

Starting with the feasibility study, through planning, engineering, manufacturing, and commissioning, we handle each sale of a welding system as a project. During this time, our customers have one single point of contact: the project manager. He coordinates the entire process and is at our client's side with advice and support.



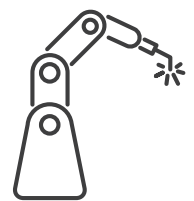
Hard automation

Torch movements are controlled automatically without the use of robots. Examples include boiler welding systems, clamping benches, orbital welding systems and magnetic or rail-guided welding carriages.



Robotic welding

Robots control the motion axes. They are ideal for automating complex welding tasks on different components, combined with intelligent offline programming and simulation software, already from batch size one.



Cladding

Overlay welding is mainly used in the cladding of metals to protect against abrasion and corrosion. Typical application fields are riser pipes and valves for the gas and oil industry or membrane walls for power plants and waste incineration plants.



Automation from a single source



Customized conception

Our focus is on the requirements of our customers. They are at the beginning of every feasibility study and determine the entire engineering process. The result is a customized welding system that efficiently produces flawless welds.



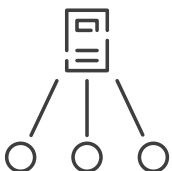
Professional project management

Qualified project managers manage the entire project process and form the interface between our customers and all Fronius departments involved. They ensure smooth processes, good cooperation, and successful project completion.



Welding technology

The complete Fronius technology range is available for welding processes and sensor technology. Integration in welding systems depends on the component conditions, process accuracy, and cost-effectiveness.



Technology alliances

For special components such as robots, sensors, clamping or racking systems, we work together with qualified cooperation partners.



We are a solution provider for welding challenges. From batch size one to series.

Modular kits for hard automation and robotic systems, collaborative systems, intelligent sensor technology and software solutions for data management, offline programming and simulation open up a wide range of welding possibilities for metalworking companies, even from batch size one. That's why automated systems are now profitable, not only for corporations but also for small and medium-sized enterprises. At Fronius Welding Automation, our customers get the best solution for them from a single source.

Software solutions

We rely on future-oriented software solutions that enable a high degree of control and optimum interaction of all system components. With Fronius Pathfinder®, we offer our customers an offline programming and simulation solution that significantly increases the efficiency of welding systems.



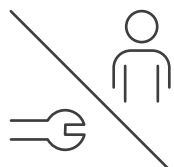
Data management

Our specialists have programmed WeldCube for the evaluation of welding data. The innovative software seamlessly records welding data, makes welds reproducible without restriction and supports the identification of optimization potential and maintenance intervals.



All-inclusive service

From the very beginning and throughout the entire service life of a welding system, we stand by our customers worldwide: Starting with planning, feasibility studies, welding trials, commissioning, user training, remote support, calibration, predictive maintenance and, on-site service.



Solutions that economically convince



Our customers need equipment that delivers perfect welds over the entire product life cycle. Efficiently and with the highest possible profitability. Therefore we attach importance to feasibility studies, simulations and welding tests during the engineering phase.

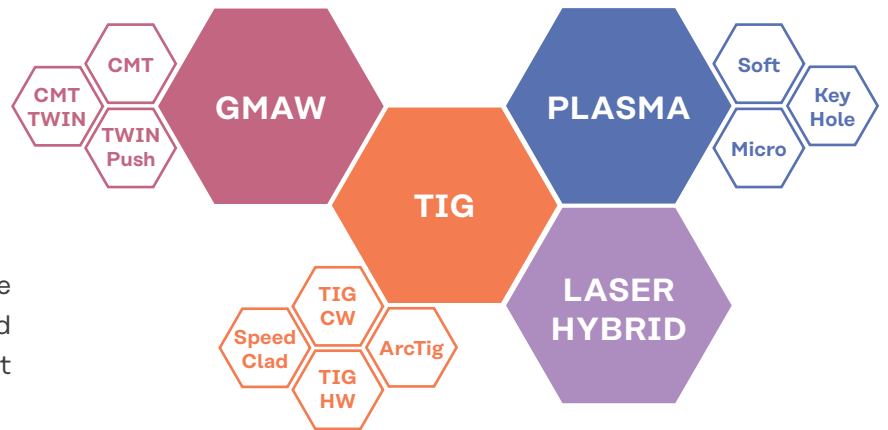
Technology and prototyping center

- At our location in Wels, Upper Austria, we develop the ideal solution for all challenges in the welding technology.
- Our offer starts with feasibility studies and ends with hard automation or robotic turnkey plants.
- Robotic welding cells, equipped with the latest joining technologies, are available to us for extensive welding tests and the production of pilot series.
- To ensure the best possible welding quality we equipped our welding cells with intelligent sensor technology.
- Optical inspection systems, together with a robot-controlled component measurement cell, optimize quality control.
- We record all parameters. They are the basis for far-reaching analyses and the correct reproduction of welds. For this purpose we use our WeldCube welding data software.



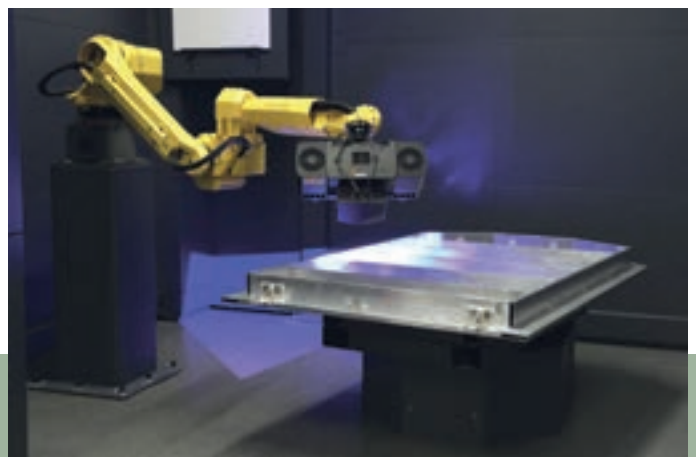
HTW Handling-to-Welding robotic welding cell

LaserHybrid robotic welding cell with ArcView camera



Welding process

We decide which technology to use in the course of simulations, welding tests and analyses. In any case, it is the one that best combines quality, speed and economy.



CMT-Robot welding cell with ArcVie camera

Robot controlled component measurement cell

The task determines the system

References



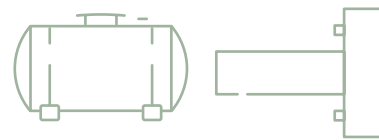
Housing, flange & web joints
with "Handling-to-Welding" robotic welding cell

Characteristics: robotic welding system for a wide variety of tasks and components. Economical even for small batch sizes.

System control with 3D real-time visualization, high level of welding autonomy and safety, welding data management.

Material: steel, CrNi, Al

Welding processes: GMAW (CMT), TIG



Boiler & tank connections
with "Multi Welding System"

Characteristics: welding system for build-up longitudinal and circumferential welding of various components such as boilers, tanks, pipe attachments, pipes, pipe-flange connections or valves.

Material: steel, CrNi, Al, duplex, NiBas

Welding processes: GMAW (CMT), TIG (cold & hot wire, ArcTig, SpeedClad 2.0), plasma



Hard automation or better robotics?

A robotic welding system is not always automatically the best choice. That depends entirely on the individual requirements. It determines whether a gantry welding system or a robotic welding cell is better because of more economical solution.

To decide this, we draw on technical and economic empirical values on the one hand and

on extensive feasibility studies and simulations on the other.

In any case, our customers receive the most suitable welding solution for them, whether it is a mechanized welding system or one with a robot.

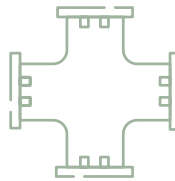


Housing joints
with "Handling-to-Welding Robotic Welding Cell"

Characteristics: robotic welding system for welding inverter housings made of sheets of different thickness. System control with 3D real-time visualization, high level of welding autonomy and safety, ERP interface, welding data management.

Material: Al

Welding processes: GMAW (CMT Mix, PMC Ripple Drive)



Cladding of valves
with "Endless Torch Rotation System"

Characteristics: cladding system with endless rotating torch for cladding components with complex geometries such as bore-to-bore advanced, race track, ring groove, circular segments, flanges with holes, spherical sections and others.

Material: steel

Welding Processes: TIG (cold & hot wire, SpeedClad 2.0)

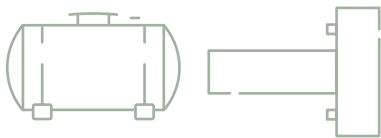


Flexible, intelligent, user-friendly and durable

Rail vehicle construction



References



Vessels, pipes, flanges with
"FCW Compact"

Characteristics: Compact circular seam welding system with two welding heads, rotating unit and tailstock for many different tasks, wide range of functions, intuitive system control and remote control.

Material: steel, CrNi, Al, Duplex, NiBas.

Welding processes: GMAW (CMT), TIG (cold & hot wire, ArcTig), plasma



Cylindrical components such as container shells
with "FCP Clamping Bench"

Characteristics: Longitudinal welding system for internal and external welding of large diameter cylindrical components in tank and vessel construction, welding carriage with travelling wire feed, pneumatic clamping system, intuitive system control and remote control.

Material: steel, CrNi, Al, NiBas, duplex.

Welding processes: GMAW (CMT) TIG, plasma



Yellow goods



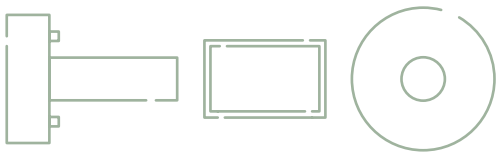
Oil - & gas industry



General industry



Waste to energy



Flanges, frames, dished heads and various other components with "FRW Compact"

Characteristics: Compact robotic welding system for various types of components, economical from batch size one, intuitive system control with 3D real-time visualization, intelligent welding data management, high safety standard.

Material: steel, CrNi, Al, Duplex

Welding processes: GMAW (CMT), TIG (cold & hot wire), plasma



Pipes, flanges, housings, small parts and other components with "CWC-S Cobot Welding Cell"

Characteristics: Cobot welding cell with turntable, fume extraction, protective cabin with automatically raising glare shield, which can be operated intuitively and without programming knowledge. High safety standard, CE approved

Material: steel, CrNi

Welding processes: GMAW (CMT)



Carriages and orbital systems

Beams, ventilation shafts, tanks, pipes, and more.

No matter what components you need to join: Mechanized welding at consistent quality and speed pays off with Fronius systems, even for small and medium-sized businesses. Our carriages and orbital welding heads deliver perfect welds from batch size one.

Rail carriage FlexTrack 45 Pro



Four wheel magnetic carriage ArcRover 22



Open welding head FOH



Closed welding head FCH

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