



Automated welding systems

All-in solutions from a one-stop supplier



PERFECT WELDING

The Fronius focus: Clients, and clients' applications

INDUSTRY-LEADING KNOW-HOW

“Getting there first” in terms of better results and novel solutions – for years now, this aspiration has spurred Fronius on from one innovation to the next. Development work has always taken pride of place here. It’s no coincidence that Fronius is Europe’s market leader – and the world’s technological leader – in arc-welding technology. This unique pool of know-how **also encompasses welding automation.**

With 30 years’ experience in the field, Fronius knows all about setting the right priorities: The customer, and the customer’s specific application.

THE FRONIUS INNOVATION LEAD

Cost-effective in day-to-day use

Reproducible welding results

- process monitoring
- data logging
- programmable, storable parameters
- weld-data management

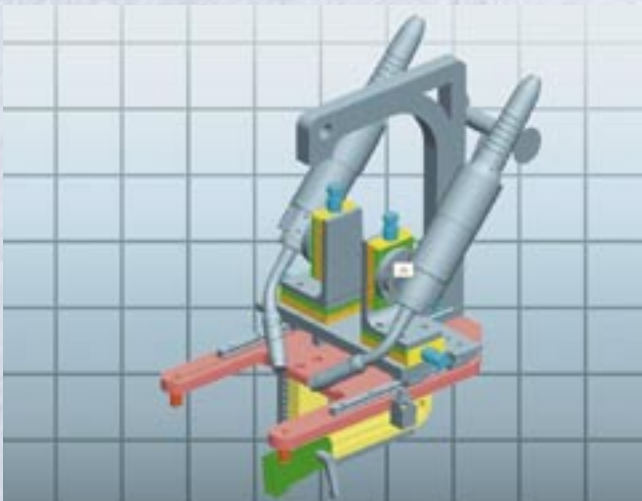
Superlative reliability

Maximum installation availability



The Fronius bonus: Everything from a one-stop supplier

When it comes to automated welding systems, Fronius is an unrivalled partner to work with. In every regard. After all, Fronius offers complete, “one-stop shop” solutions. Taking in everything from planning, to implementation, to service following completion of the installation. This calls for optimum know-how every step of the way:



Feasibility study

First the right process-engineering approach is ascertained, and the ideal welding process is determined by experts.

Plant engineering

– comprising 3D simulation, active integration of client wishes, workflow-related optimisations, and selection of the appropriate safety features and sensor technology etc.

Manufacture of the plant at Fronius

All plant manufacturing is carried out at Fronius. For it is only in this way that the ever-more exacting quality demands made of modern-day applications can be met – and not just met, but exceeded by the laying down of new benchmarks.

Software development

Software solutions for controlling client-specific process-flows are individually developed and permit optimum process control while still being straightforward and intuitive to operate.

Training at Fronius

Extensive training of the skilled personnel with regard to utilisation, maintenance etc.

On-site erection and commissioning

Fronius also installs the plant at the usage location. This includes expert training and process optimisation during the production start-up phase.

Service

Fronius' worldwide partner network offers swift, high-calibre support.

The right system for every sector

SYSTEM APPLICATIONS

In industry-typical system applications, Fronius' decades of experience in the field of welding automation give it a head-start: Take any industry-typical item that needs welding – be it shock absorbers in vehicle manufacturing, or boring-heads in the offshore sector – and these ready-developed Fronius systems will deliver instant efficiency in many different sectors:

- construction of plant, containers, machinery and structural steel
- automobile and allied vendor industries
- construction of chemical plants, power engineering
- industrial plant and pipeline construction
- corrective maintenance and repair
- aerospace
- structural and portal work
- shipbuilding, onshore/offshore engineering
- construction of special vehicles and construction machinery



ETR-S overlay welding installation for shipbuilding and onshore/offshore engineering

Designed for weldments with cylindrical bores (boring-head elements, valves, pump housings, pipelines, marine-engine components). Use of the TIG hot-wire process here ensures that the very highest quality aspirations are fulfilled.



Girder welding installation for custom vehicle construction, bridgebuilding and industrial hangar construction

Is used for MIG/MAG-welding steel and aluminium profiled girders.



Filter welding installation for automobile industry

This is used for welding aluminium fuel filters, or expansion reservoirs for air-conditioning systems.



Finned-tube overlay welding installation for use in industrial plant

Weld-cladding to protect evaporator walls against corrosion, e.g. in power stations or refuse incinerators.

Specialist tasks call for individual solutions



Longitudinal-seam welding installation

This rail-mounted system has an integrated seam-searching system, a ride-along operator console with an integral industrial-strength PC, a path-measuring system for the travel carriage, and motorised swivel-mounted booms for positioning the torch-head.



Portal

A rail-tracked portal unit, freely programmable in six axes, together with motorised telescoping axis for the torch head (vertical positioning). For welding large or long/tall components, e.g. in the construction of railway rolling stock or heat exchangers.



Combination-seam welding installation

A welding system for both circumferential and longitudinal seams on containers of up to 6 m in diameter. Equipped with welding head for MIG/MAG (with integrated camera monitoring of arc and weld-seam), TIG hot-wire, plasma keyhole, industrial-strength PC and laser seam-searching and tracking system.



Circumferential-seam welding installation

With four independently addressable welding heads that are set up for both MIG/MAG and TIG. The operator console is equipped with an industrial-strength PC. For weldments up to 9 m long.

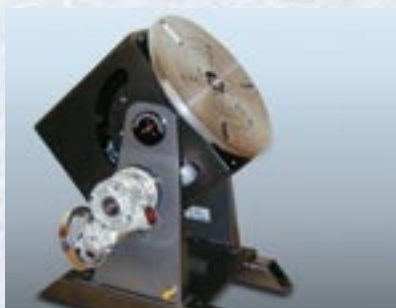
INDIVIDUAL SOLUTIONS

Certain applications call for new, individual fabrication concepts. Installations which achieve perfect results and which have to start paying their way quickly, despite being exclusive “one-off” creations. Fronius has got what it takes in these cases, too. From the mechanical design all the way through to the control concept, the entire installation will be optimally tailored to your particular application. Coupled with the welding appliance technology, this is where the “one-stop shop” philosophy really comes into its own.

Setting standards. Or efficiently combining them.

STANDARD APPLIANCES

Fronius has a wide range of standard components – from mechanical weld-scanning devices to programmable system controllers. In each and every one of these products lies advanced technology and years of know-how. And it shows. Because if your application requires, these standard components can readily be combined to make complex system configurations. This opens up a multitude of possible uses. You'll find several examples under the fold-out at the right.



Turntables

Enable widely varying weldment geometries to be exactly positioned.



Traversing units

For welding longitudinal seams.



Seam-searching and tracking system

Mechanical and/or optical systems for precision searching and tracking of seams.



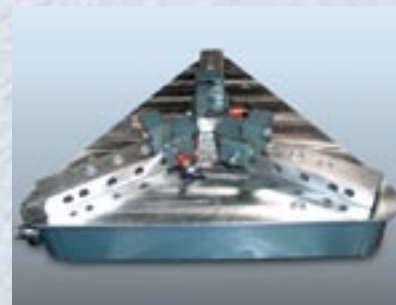
Rotating fixtures for pipes or containers

Dollies for handling oval pipe constructions ranging from the thin-walled to the extremely heavy.



Clamping benches

Highly integrated longitudinal-seam welding installation for containers, tanks, tubes, sheets. In conjunction with TIG, MIG/MAG and plasma welding processes.



Clamping chuck

3-jaw clamping chuck for use on tilt-and-turn tables. Main advantages: Central clamping, quick adjustment to various diameters.



Oscillation systems and slide systems

Can be used as a linear travel and oscillation and/or positioning and AVC axis.



Stands and machine carriers

For motorised torch positioning, holding a compound slide system and welding using a longitudinal traverse-axis.



Control units

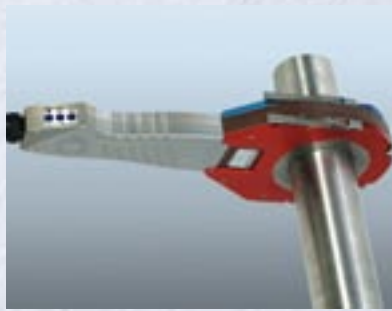
For monitoring and controlling the entire welding sequence. For optimum, reproducible results.

Everything rotating and in motion – except for one thing, and that’s the weldment itself.



ORBITAL SYSTEMS

Orbital systems “close the circle” of system controls and power sources at the very highest level. The focus here is on the quality of the weld-seam, reproducibility of results and cost-effective production.



Closed welding tongs

Especially for thin-walled tubes. Their compact design enables them to be used even where access is limited. Rapid adaptation to different pipe geometries thanks to the modular clamping collar system.



Tube-to-tubeplate welding heads

Used on flush, projecting and recessed tubes. Also available with integral wirefeeder and motorised torch height adjuster (AVC). For TIG and MAG.



Open welding tongs

For virtually all applications in the pipeline construction field. Minimal retooling times thanks to steplessly adjustable rapid-clamping and centering system. Optionally: Motorised torch height adjuster (AVC) and oscillation unit (OSC).



Orbital system controller

For full control of the process. All parameters easy to program via remote-control. Internal memory for downloading and storing pre-defined welding programs.

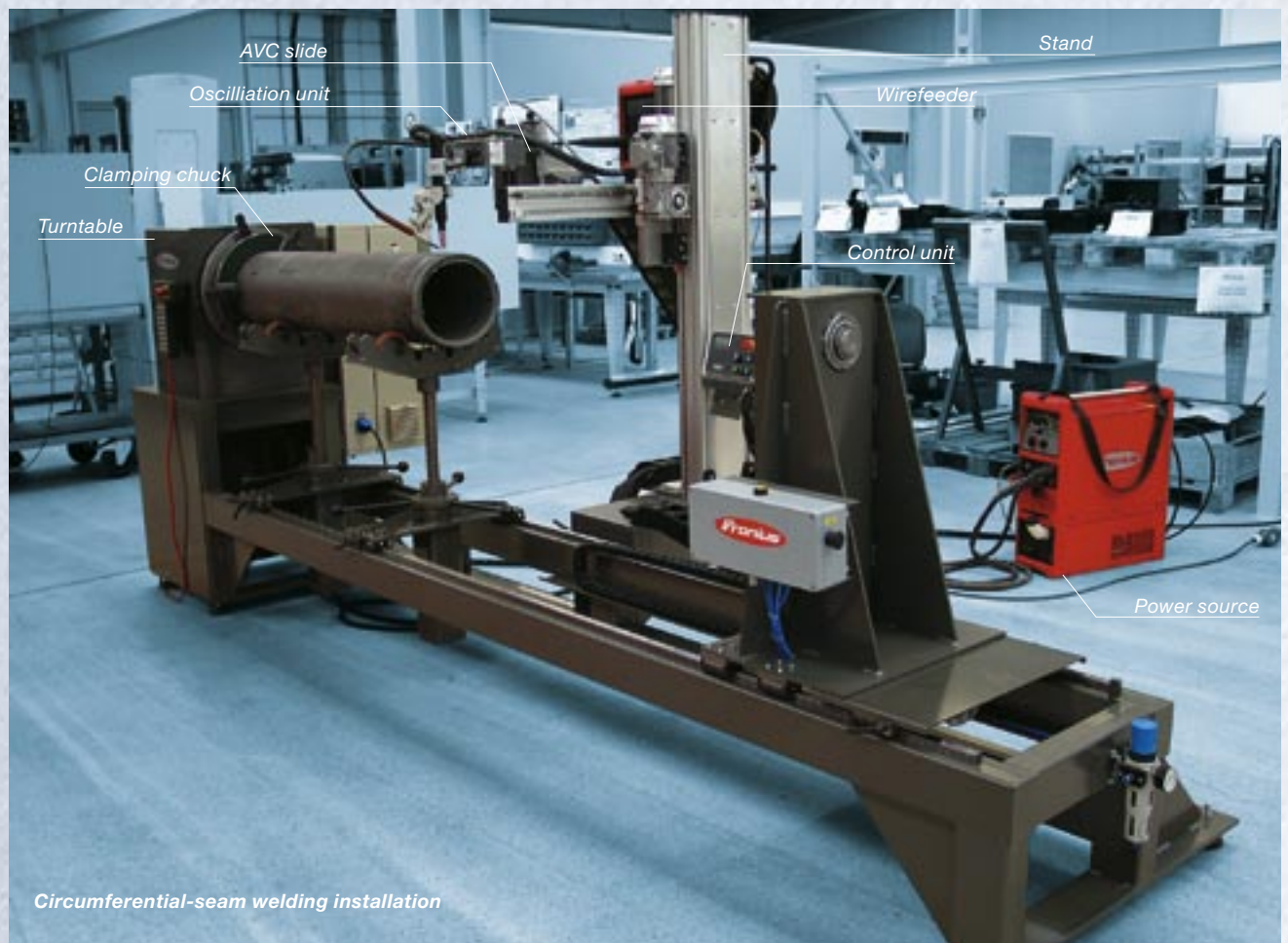
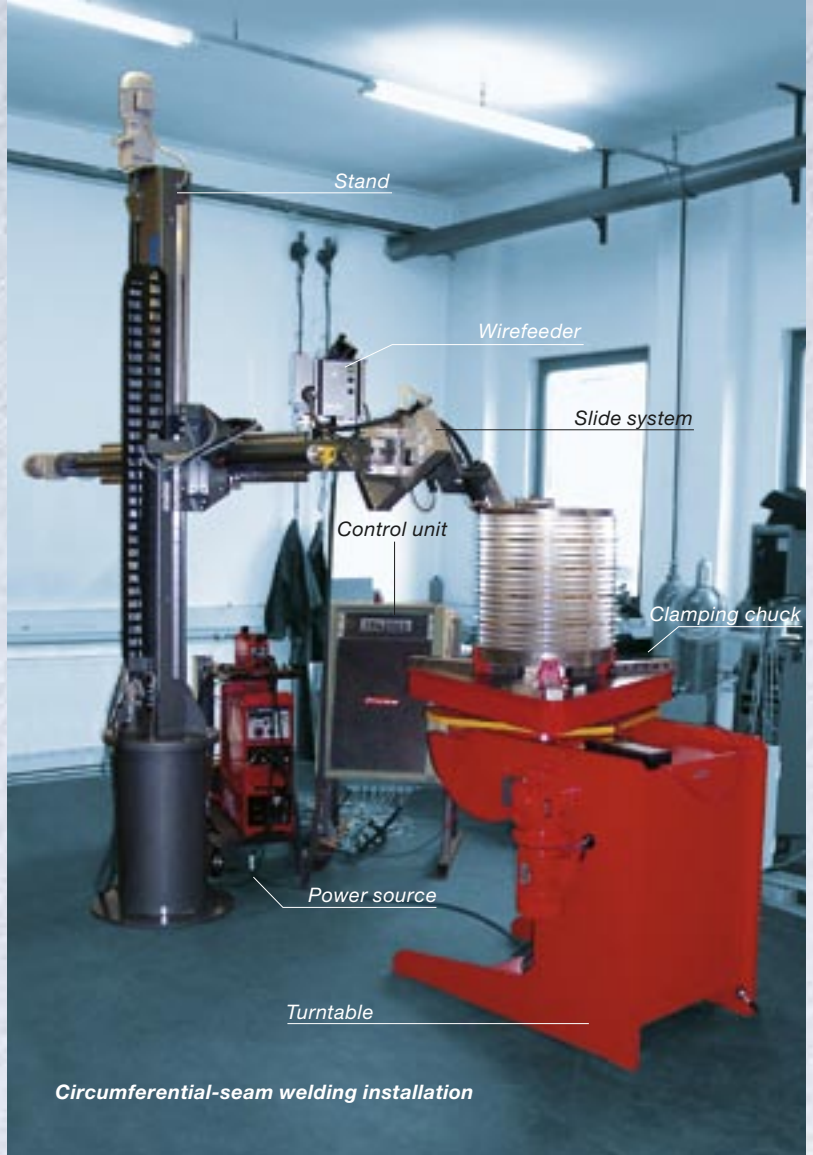


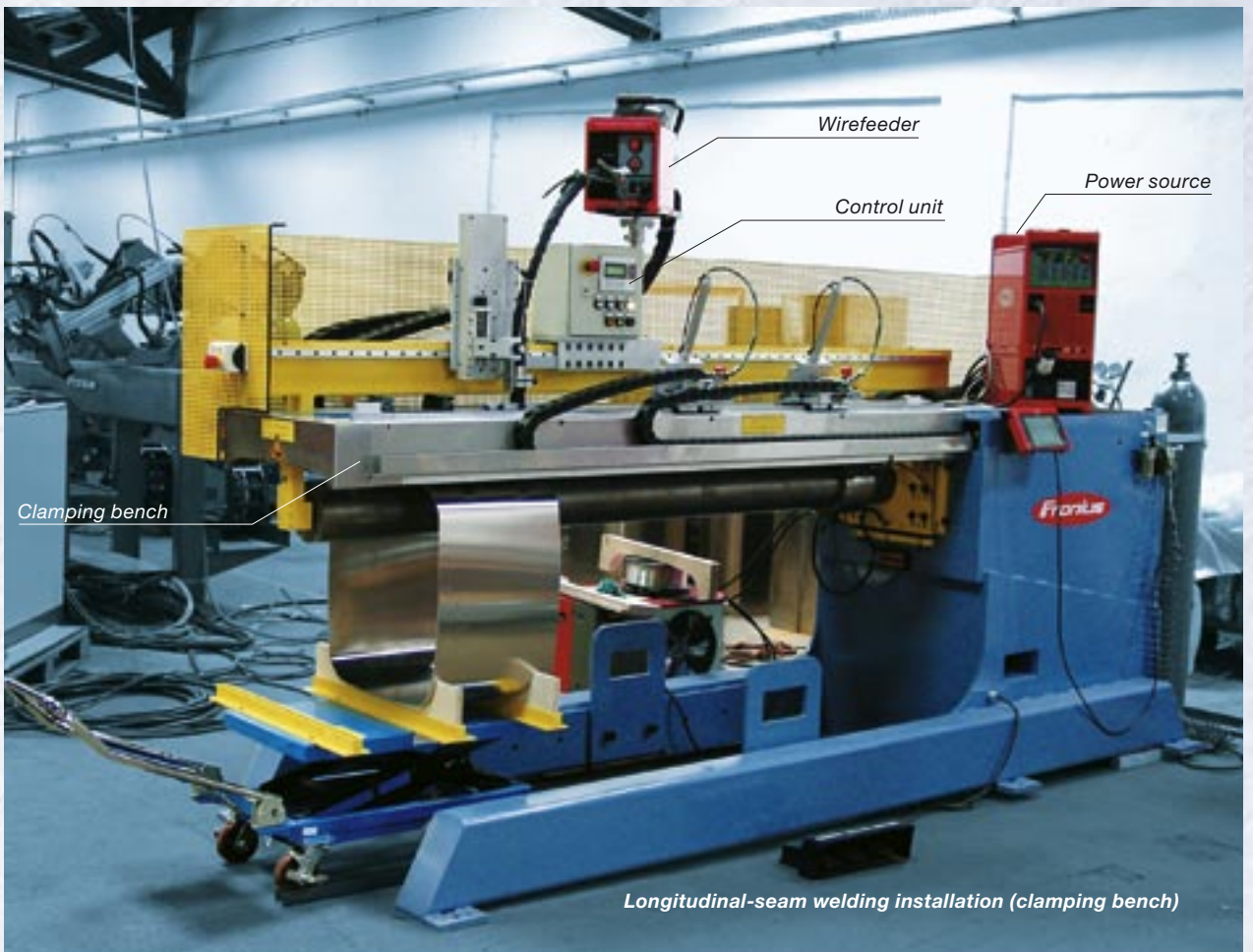
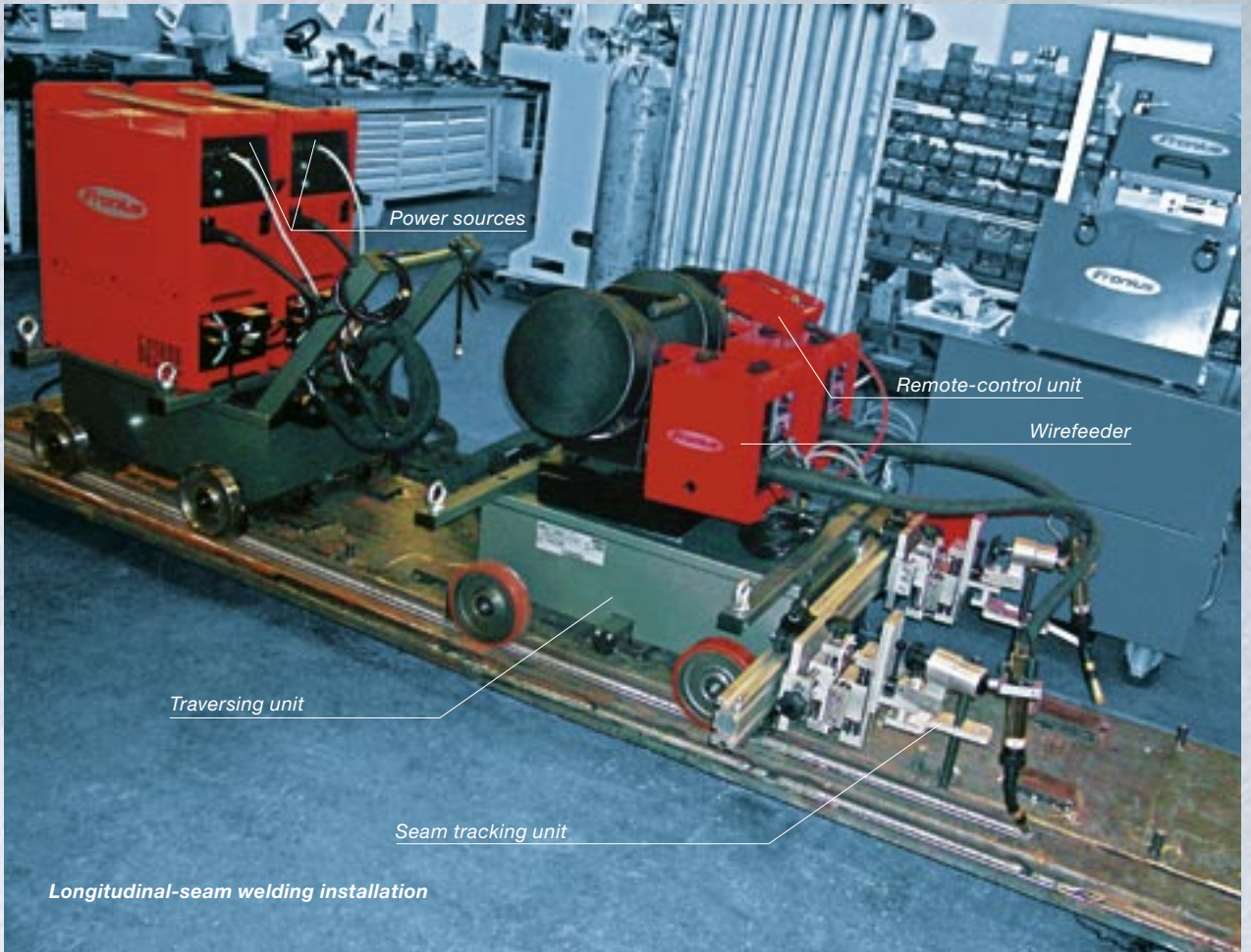
Orbital travel carriage

For welding large-diameter, thick-walled pipes – especially in the pipeline construction field. Motorised torch height adjuster (AVC) and oscillation unit (OSC). For TIG and MIG/MAG.

SYSTEM CONFIGURATIONS

Put together from standard appliances







FRONIUS USA LLC

Business Center-Eagle One, 10503 Citation Drive
Suite 600 Brighton, Michigan 48116 USA
Tel: +1 810 220 4414
Fax: +1 810 220 4424
E-Mail: sales.usa@fronius.com

FRONIUS INTERNATIONAL GMBH

Buxbaumstrasse 2, P.O.Box 264, A 4602 Wels
Tel: +43 7242 241-0, Fax: +43 7242 241-3940
E-Mail: sales@fronius.com

www.fronius.com