ROBOT WELDING.

Long-life system solutions for all welding requirements.
Ever since 1950, we’ve been developing innovative comprehensive solutions for arc welding and resistance spot-welding. Like our Cold Metal Transfer technology CMT. This revolutionary welding process has swept away one old prejudice: that you can’t weld aluminium and steel to one another. Day-in, day-out, we’re working on our vision: to ‘decode the DNA of the arc’. No wonder that we’re the welding-sector’s technological leader worldwide, as well as being the European market leader.

LONG-LIFE SOLUTIONS FROM THE WORLD MARKET LEADER AND INNOVATION PACESETTER.

Fronius is the strong partner that provides every robot brand, every system and every application with outstanding technologies and excellent service. We have a decades-long track record as a system supplier to all relevant sectors. In this, we insist on always delivering the same high quality, everywhere, every time. As a single-source supplier, we achieve this not least through our worldwide subsidiaries, our huge store of experience and our excellent service – no matter where.

SYSTEM SUPPLIER WITH OVER 30 YEARS’ EXPERIENCE.

At Fronius, tradition and experience are close companions. For more than 30 years now, we have been delivering superlative product quality in the field of robot welding. The close working relationships that we have with our customers and with all robot manufacturers mean that we are completely familiar with their industry and their requirements.
WE MAKE IMPOSSIBLE WELD-JOINTS POSSIBLE. BECAUSE WE KEEP GOING WHERE OTHERS QUIT.

WORLD MARKET LEADER AND INNOVATION PACESETTER.
/ Our innovations have made a home for themselves just about everywhere. All round the world, Fronius is involved in the main technological innovations – in the automobile industry, for instance.

PERFECT SYSTEM SOLUTIONS FOR EVERY REQUIREMENT.
/ We are the full-line system manufacturer and single-source supplier of robot welding systems. Our technologies are suitable for all types of robot and all robot manufacturers. This means that no matter whether it’s standardised or customised, Fronius has the right solution for every application.

/ Plasma welding with MagicWave

/ TIG cold wire welding with MagicWave
LONG-LIFE SOLUTIONS WITH SUPERIOR WELDING PROPERTIES – FOR ALL APPLICATIONS.

As a global market leader in the robot-welding field, we have all the latest technologies for arc welding and resistance spot-welding. Our customers can be sure that all the components of the innovative Fronius welding systems will work together in perfect harmony for years and years to come. As a single-source supplier, we deliver ultra-high product quality, absolute efficiency, and unrivalled service.

COMPARISON OF ARC TECHNOLOGIES

EVALUATION CRITERIA FOR MAKING THE RIGHT SELECTION

Fronius offers the right weld processes and arcs for every application. For most materials, welding speed and gap-bridging ability can be used as the evaluation parameters.
### STEEL

<table>
<thead>
<tr>
<th>Metal Thicknesses</th>
<th>0.5 – 2.0 MM</th>
<th>2.0 – 5.0 MM</th>
<th>&gt; 5.0 MM</th>
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<tbody>
<tr>
<td>STANDARD</td>
<td>DTA</td>
<td>Spray arc</td>
<td>T.I.M.E.</td>
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<tr>
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<td>CMT Pulse</td>
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<td>PCS arc</td>
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<tr>
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<td>Time Twin</td>
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<td>Plasma</td>
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<tr>
<td>LASER HYBRID</td>
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<tr>
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### CRNI

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<tr>
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<td>Microplasma</td>
<td>Plasma keyhole</td>
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*Abbreviations: DTA: dip-transfer arc; CMT: Cold Metal Transfer*
WE OFFER THE ULTIMATE IN ROBOT-WELDING SYSTEMS AND SERVICE, WORLDWIDE.

If you’re serious about exploiting the scope of excellent welding properties and functions to the full, you have to think in terms of systems. Which is what we do, everywhere. Just like we think about our customers, with capable teams of applications and service technicians delivering fast, expert ‘on-the-spot’ advice and support.

SUPERLATIVE PRODUCT QUALITY

Fronius is a byword for high-quality system components for robot welding. And thus for dependable, long-life welding systems.

MAXIMUM SYSTEM AVAILABILITY

Because they are designed for interoperability, the system components keep operational downtimes exceptionally low: for example, Contec ensures constant welding properties, while Robacta TX allows the torch body to be changed without human intervention, independently of work-shifts.

FULL-LINE SYSTEM SUPPLIER

We supply modular system components to ensure the very greatest flexibility with all applications and welding processes. Perfect interplay between all the components of the welding system is a matter of fact here.
PERFECT WELDING PROPERTIES

/ Our mastery of the arc is unrivalled. The precision of our control systems means that we achieve for example the best gap-bridging ability, the highest welding speeds, and spatter-free applications.

WORLDWIDE DIRECT SALES ORGANISATION

/ Fronius has a closely meshed distribution network of subsidiaries and partner firms, spread across all five continents.

OVER 30 YEARS’ EXPERIENCE

/ Our long-standing working relationships with robot manufacturers and integrators mean that we have had a hand in all the trend-setting innovations and technical milestones.

SERVICE THAT’S CLOSE AT HAND

/ Our customers enjoy swift and capable ‘on-the-spot’ service which is of the same high quality throughout the world.
APPLICATIONS AND WELDING RESULTS AT A GLANCE.

TRANSPULS SYNERGIC
/ Digitally controlled welding system, 100 % reproducible welding results
/ Spatter-free ignition (SFI)
/ Multiprocess-capable
/ Start-up program for aluminium
/ SyncroPuls

TRANSSTEEL
/ Perfect steel welding
/ Extremely stable arc
/ Easy system handling

CMT (COLD METAL TRANSFER)
/ Spatter-free MIG/MAG welding
/ Minimised thermal input
/ Outstanding process characteristics

MAGICWAVE/TRANSTIG
/ All-digitally controlled TIG welding systems with integral cold-wire-feeder unit
/ Superior weld-seam quality
/ Completely harmonised, interoperable welding system
/ Perfect root fusion with TIG pulse welding

/TIG AC – 1: 125 A, U: 17.2 V, Vwire: 1.2 m/min, Vweld: 40 cm/min. Material: aluminium 1 mm
THE ROBOT WELDING SYSTEM – THE HIGHLIGHTS.

WIREFEEDER
/ Compact wirefeed unit means greatly reduced obstacle contours.

INTERFACE
/ Our robot interfaces function with all common field-bus and analogue signals.
**FSC – FRONIUS SYSTEM CONNECTOR**
/ Central connection-point for all media
/ Firmly locks the hosepack with no need for any tools

**EASE OF HANDLING**
/ The movable wirefeeder holder makes for much easier handling when changing the inner liner.

**MAGNETIC CRASHBOX**
/ Compact design = smaller obstacle contours in the 6th robot axis
/ Minimised obstacle contours
/ Trigger forces can be adjusted by modular magnetic rings
APPLICATIONS AND WELDING RESULTS AT A GLANCE.

MICROPLASMA, SOFT-PLASMA, PLASMA KEYHOLE
/ Plasma welding systems can be retrofitted to existing TIG installations
/ Complete freedom from porosity
/ Flawless seam appearance
/ Spatter-free applications

TIME TWIN
/ Ultra-high deposition rates of up to 30 kg/h achieved by using two synchronised pulsed arcs that weld alternately.
/ Aluminium 60 mm
/ Steel 10 mm
/ Steel 3.5 mm
/ Steel 70 mm
/ 6 passes
/ Position PF, narrow-gap
/ Simultaneously with Time Twin (PA) and CMT (PE)
/ Without seam preparation
/ Minimal distortion
/ High welding speeds – Vweld 150 cm/min
/ Custom application

LASERHYBRID
/ The laser beam and the arc act jointly in one welding zone, influencing and supporting one another
/ Shorter fabrication times
/ Welding speeds of up to 9 m/min
/ Deeper penetration and narrow seams, yet less thermal input
/ Steel 12 mm
/ Steel 4 – 8 mm
/ Through-welded on one side, without seam preparation
/ Fillet weld, through-welded on one side, w/o seam preparation

CONTEC MD
/ Novel contacting technology
/ Contact tip at beginning
/ After wear
/ Contec at beginning
/ After wear
/ Penetration on the workpiece decreases as the contact tip becomes increasingly worn.
/ The flexible half-shells keep the contact tip unvaryingly constant. The penetration remains constant and unchanged.
WE HAVE THREE DIVISIONS AND ONE PASSION: SHIFTING THE LIMITS.

/ What Günter Fronius started in 1945 in Pettenbach, Austria, has now become a modern day success story. Today, the company has more than 3,000 employees worldwide and owns 737 active patents. Since the very beginning, our goal has not changed: to be the technology and quality leader. We shift the limits of what’s possible. While others progress step by step, we innovate in leaps and bounds.

BATTERY CHARGING SYSTEMS
/ We started a technological revolution with Active Inverter Technology and are now one of the leading suppliers in Europe. We are driven by the aim of providing intelligent energy management systems that ensure mobility stays as economically viable as possible in the twenty-first century.

WELDING TECHNOLOGY
/ We develop welding technologies, such as entire systems for arc and resistance spot welding, and have set ourselves the task of making impossible weld joints possible. Our aim is to decode the ‘arc welding’s DNA’. We are the technology leader worldwide and the market leader in Europe.

SOLAR ELECTRONICS
/ The greatest challenge of our time is to make the leap to a regenerative energy supply. Our vision is to use renewable energy to achieve energy independence. With our mains-connected inverters and products for monitoring photovoltaics systems, we are now one of the leading suppliers in solar electronics.

Further information about all Fronius products and our global sales partners and representatives can be found at www.fronius.com