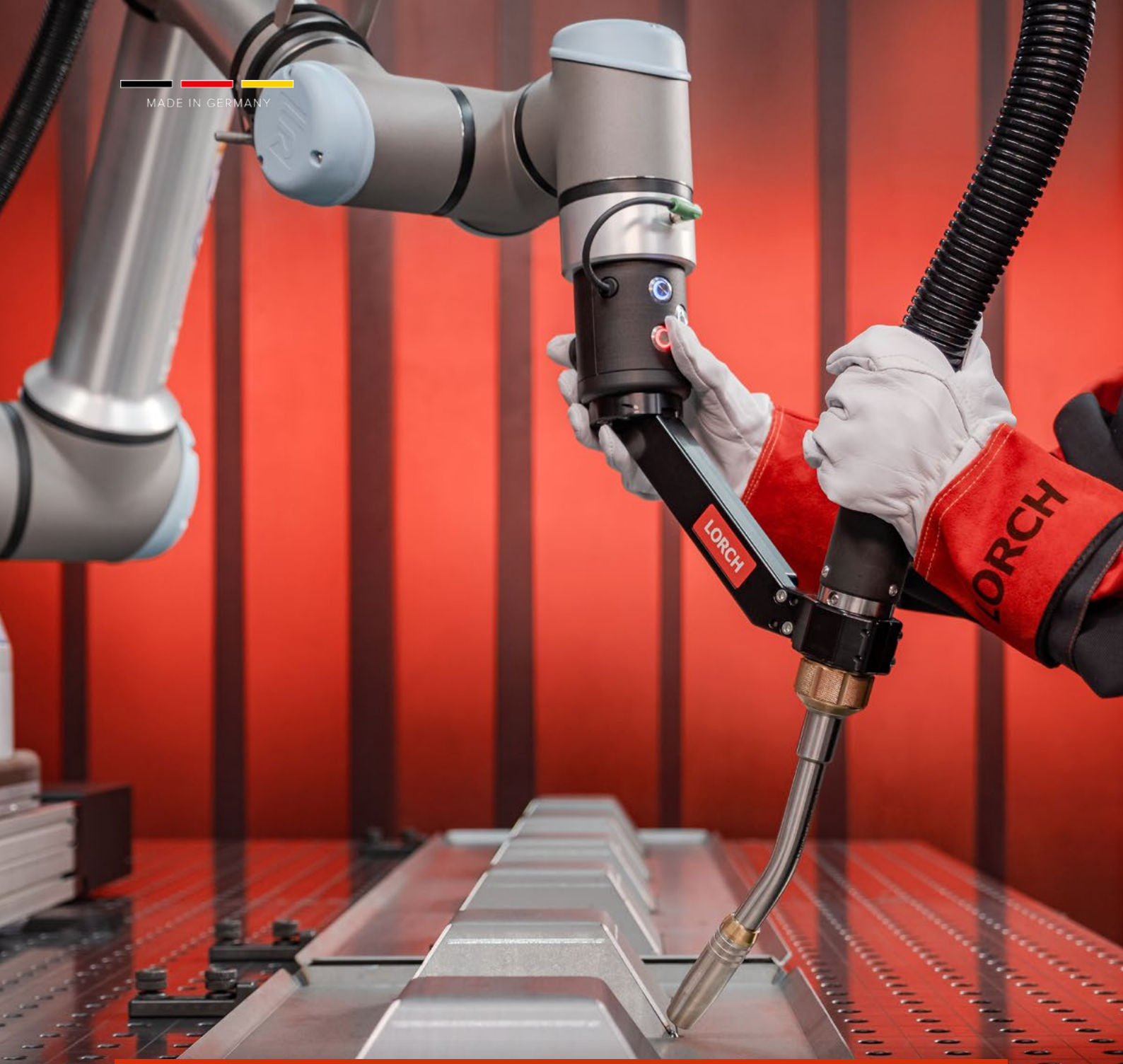


LORCH
smart welding

MAKE YOUR TEAM STRONGER.

The new Lorch Cobot Welding World
for complete customised solutions.

www.lorch.eu

Cobot welding: the solution for medium-sized businesses.

The best Cobot welding solution from the market leader. Secure and effective..

Cobot welding means collaborative robot welding for medium-sized businesses – a system made for the automation of small to medium batch sizes.

This form of welding automation leaves the welder in control of the system while the cobot performs the instructions perfectly and precisely. They work hand in hand together. This makes their workplace more attractive, relieves the welder, and increases productivity and quality in the company.

Compared to other automation solutions, your investment costs will remain much lower in comparison to the much less flexible world of industrial robot welding.

THE ANSWER TO ...

Lack of specialists
in the welding industry

Cost pressure
from international competition

Technology gaps
due to uncertain and high investment costs

For further information, see
www.lorch.eu/en/cobot-welding

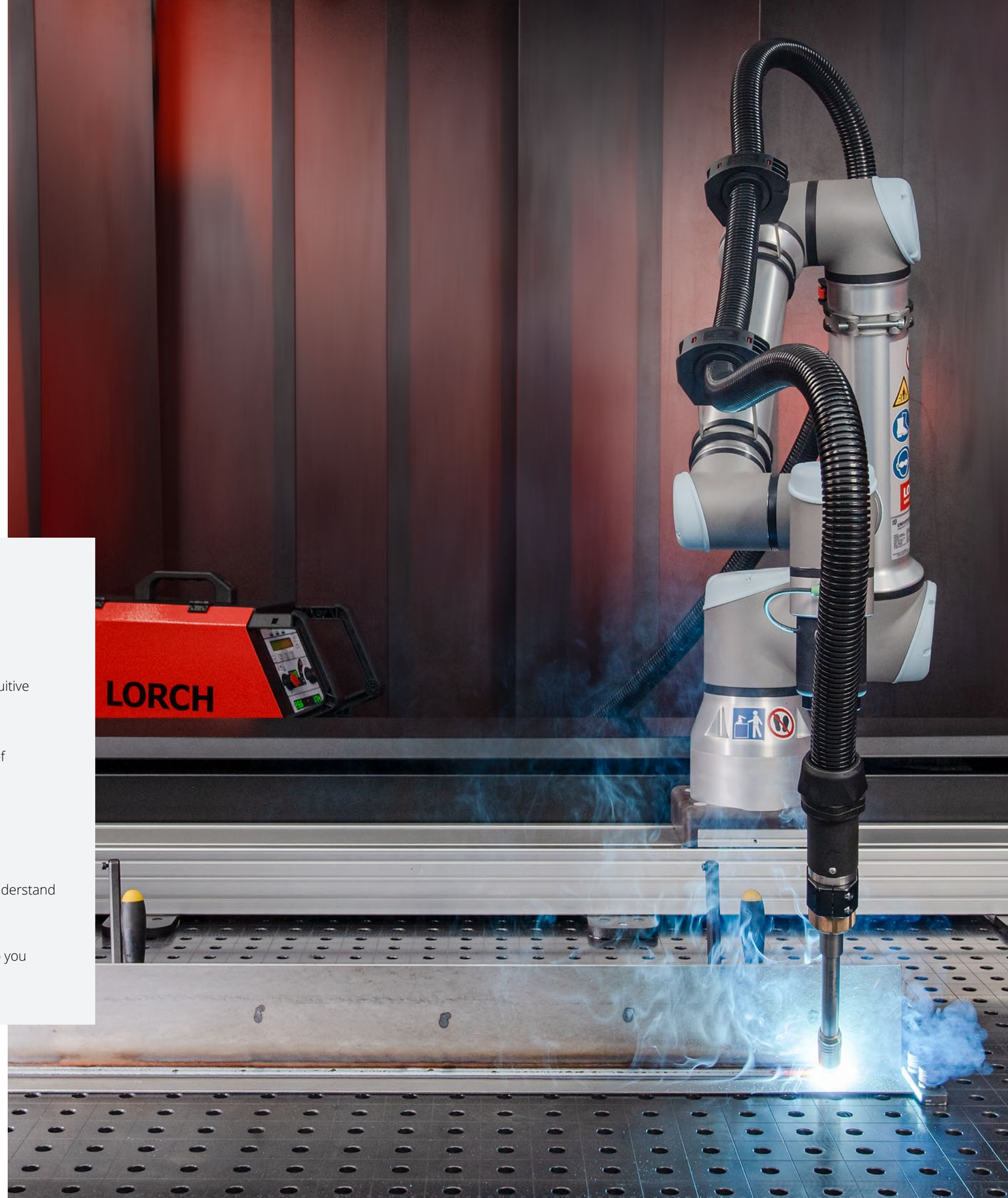
Top welding technology and maximum service.

A world for winners: Everything is interlocking – leading to top performance.

The Lorch Cobot Welding World allows a simple entrance into welding automation for medium-sized companies. Our myCobot system kit offers customised complete solutions that will integrate easily into your work processes. Smart software, perfect processes, and an international partner network make the difference for your production.

FIRST CLASS ADVICE AND SUPPORT

Consulting	Transparent consulting based on your work processes and targets
Individual complete solution	Perfectly coordinated components for intuitive operation and efficient work
Financing, leasing, or rent	Attractive offers from rental to financing of your automation package
Setup and assembly	Reliable setup and integration up to commissioning of your system
Training and instruction	Immediately productive due to easy-to-understand training for operation and functions
Customer service	Our qualified Cobot partner is available to you with comprehensive services



Selected **references.**

Profitable stories from already successfully implemented Cobot automation solutions.

"Programming the welding Cobot is fun and easy to understand. The robot welds very reliably. Both the time savings and workload reduction where repetitive, tiring welding tasks are concerned are enormous benefits for us."

Simon Ludwig, welder,
Hodapp GmbH

"The cobot has enormous potential. We have cut the production time in the manufacture of our important turbine chassis in half."

Frank Leutloff, steel construction department head at
Rösler Oberflächentechnik GmbH.

"We achieve massive time savings of up to 40% thanks to the welding Cobot solution with turn-tilt table. We also relieve our welders of particularly long, exhausting welding work."

Alexander Hörzenberger, head of steel constructions,
Habau Group

"The SmartCopy function is extremely helpful. It allows us to transfer programmed welding processes to parts of the same build in the work area, thereby clearly improving welding performace once again."

Nils Tippe, welding specialist and metal construction master,
Jorado Maschinenbau GmbH

Now new: Flexibly put together all components.

New tactic for more space.

With its plug-and-weld claim, the new myCobot automation solution systematically creates just the customisation options that have been tried and tested by many customers and that ensure true benefits. A system kit that leaves the choice to you where it truly matters, while offering only economically useful options.

Quick amortisation, simple handling for your welder, and precisely tailored to your individual application!

myCobot promises the best automation solution for you – without any risk at all.

The kit: **myCobot**

NEW: Customise automation solutions with Lorch now.

Cobot UR10e – high-quality robot technologies from the Cobot market leader Universal Robots.

» Page 18

BASIS

Welding	**MIG-MAG** For full efficiency and high-quality welds.	**TIG** For highly demanding and visually high-quality weld seams at the highest speed.
Power source	**S-RoboMIG XT series** FullProcess equipment with high-end control technology.	**V-RoboTIG series** Fast-pulse technology Optionally with digitally fully integrated cold wire feeder.
Cobot torch	**LMR torch system** With two-circuit cooling for extended standstills. Optionally as a push-pull version.	**LTR torch system** With hybrid cooling concept. Optionally with robust cold wire guide.
Control software	**Lorch Cobotronic** Unique software for greatest comfort and efficiency.	» Page 26
Quality management	**Lorch Connect** Digital welding data recording for analysis and reliable optimisation of processes.	» Page 32

OPTIONS

» Page 20-24

Hardware

Cobot Move
The linear axis for more workspace and maximum flexibility in the welding process. With constant welding quality across the entire workspace.

Cobot Turn 100 A
The turn-tilt table ensures the optimal welding position. The precise positioning for each weld seam can be specified in the programme process.

Cobot Move + Cobot Turn 100 A as a set
The optimal welding position, combined with greatest flexibility in the welding process.

SeamPilot
Optical seam sensing. utilizing Laser technology. Seam Pilot pre-scans the seam to be welded and plans the necessary path for a optimum results. Even complex seams are handled easily and quickly.

Fume extractor for the Cobot torch
Welding fumes are focussed and extracted in a compact and efficient manner just where they arise. One of the most important work safety measures when welding.

CE-compliant safety concepts

Collaborative safety concept
Safety option with maximum accessibility. The Cobot is secured by internal safety functions in interaction with the operator in productive operation.

Safety concept laser scanner
Safety option with additional safety components.
A laser scanneror function button releases interaction with the Cobot or productive operation.

» Page 28-31

Cobotronic features

QuickPoints	**Weaving**	**SeamTracking**	**SmartCopy**	**TouchSense**
AVC	**CobotJobs**	**Intervall**	**Spot function**	**... and others**

Accessories/extras

Multifunctional flange	**Operating panel**	**Additional emergency off switch**

Condensed
welding competence.

No matter if it's about MIG-MAG or TIG – Lorch offers best arc performance, perfectly aligned with the Cobot.

For further information about S5 RoboMIG XT

For maximum performance: S5 RoboMIG XT.

MIG-MAG welding on the highest level.

With its complete FullProcess equipment and lightning-fast control technology, the high-performance S5 RoboMIG XT enables you to weld virtually anything that you may want to weld – with greatest efficiency.

Cutting-edge processor technology ensures optimum interaction of all parameters and components involved in the welding process while maximising arc performance.

Peak values in arc control are achieved and optimal welding results can be reproducibly achieved for all materials.

Best arc properties: V30 RoboTIG.

Heavy-duty TIG welding for pros.

TIG welding with outstanding performance – long welding times and outstanding performance are the key features of the V30 RoboTIG AC/DC.

Contact-free HF ignition warrants increased arc stability and optimises material transition. Thanks to outstanding ignition properties, this system is perfect for automated operation. The integrated fast-pulse technology also ensures maximum efficiency in TIG welding automation. Outstanding TIG technology and tried and tested inverter technology optimise practicality and productivity in automated welding.

For further information about V30 RoboTIG

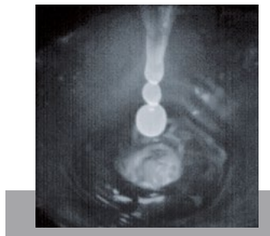
FullProcess – for any Cobot solution.

The innovative welding processes by Lorch.

Speed, quality, penetration, and weld appearance pose high demands to the welding process to produce a perfect weld seam in a vast variety of welding positions.

Our engineers have developed outstanding MIG-MAG-process innovations for you based on experience from industry practice as well as the wishes of many users.

This has led to Lorch Speed processes that significantly increase your welding speed, noticeably simplify the process, and enable unparalleled productivity.

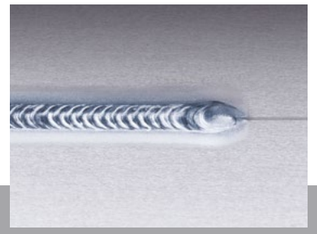


SPEEDPULSE XT

Extra fast. Extra low-spatter. Extra proficient handling.

SPEEDARC XT

Deeply impressive. SpeedArc XT sets itself apart by its highly focused and stable arc.



TWINPULSE XT

Looks really fantastic. Picture-perfect seams at maximum speed.

Christmas tree SpeedUp

SPEEDUP

Experience a real highlight for vertical seam welding.

Standard SpeedCold

SPEEDCOLD

For cold hard efficiency during thin sheet welding.

Video to the Lorch Speed processes
https://youtu.be/lx4m2DugkFg

Overview of the advantages

- Higher speed
- Better weld seam quality
- Higher penetration
- Better look of the weld seams
- Lower welding fume emissions
- Quieter work
- Higher result security due to improved process control

Automated TIG welding? It’s very simple with the Cobot.

No compromises. Comprehensive functions, also for TIG applications.

TIG welding is demanding – automated TIG welding is a challenge.

Do you need TIG welding because you have to weld very thin sheets, aesthetic appearance is particularly important, or standards and other requirements to weld seam quality require TIG? We have the solution for you! The TIG Cobot!

No matter if you need to weld aluminium, copper, stainless steel, or titanium: our TIG Cobot supplies full performance at a remarkable scope of functions!

AVC – **Automatic Voltage Control.**

Perfect TIG weld seams welded automatically with the Cobot.

AVC facilitates automation of TIG welding thanks to automated correction of the torch distance even at high tolerances or heat distortion in the parts.

without AVC

with AVC

» Page 31

Cobot technology **by the market leader.**

Lorch fully relies on the experience of Universal Robots.

The multitalent Cobot UR10e.

Lorch offers the best team player for any challenge.

Looking at the five most frequent causes of injuries at production sites, 8% are due to monotonous movement processes and 24% due to excessive strain. The current Cobot series from the market leader Universal Robots not only relieves your team of these tasks but in combination with our Lorch Cobotronic software also opens up new dimensions when processing your welding demands.

Cobot welding is even more intuitive, precise and optimised now!!

Highest quality for practical use. Quick to use and intuitive to operate, for consistently high-quality welding results. Always with the goal of creating a better and more efficient solution for you.

Improved repeatability
for maximum and consistent weld seam quality

Easier free drive
for simpler Cobot guidance and programming by the welder

More custom options
referring to operating comfort, programming process, and cobot control

Overview of the Cobot UR10e

- 1,300 mm work radius
- 12.5 kg payload
- simple, intuitive programming
- very small footprint
- short time to amortisation
- plenty of plug & play accessories

The autopilot for Cobot welding.

The SeamPilot will find, detect, and track the weld seam – even with high tolerances.

Programming complicated weld seams? Time-consuming Cobot teaching? Where conventional programming requires specification of all paths before the Cobot can track them, the SeamPilot will find its own path.

A rough starting point is all it takes. Everything else will be done by the autopilot independently. It even produces some beautiful weld seams.

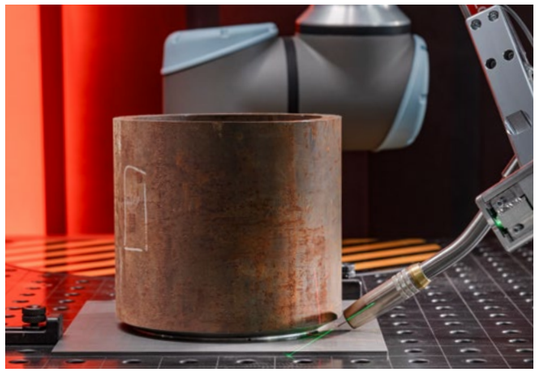
Video to Lorch SeamPilot
https://youtu.be/CdTKeJpXoGo

Overview of the advantages

- **Unbelievably simple programming:**
  Only a rough starting point needs to be specified. SeamPilot will find the further course of the weld seam.
- **No teaching:**
  Automatic implementation of the pre-defined torch position and angle.
- **Weld seam length specification:**
  Via weld seam length, rough end point, or automated recognition..
- **Even for complex demands:**
  Easily mastering outer edges or multiple weld seams in sequence on the same part.
- **Adaptable:**
  Flexibly adjustable parameters for optimised welding results.

Welding at the push of a button.

All the SeamPilot needs for its work is a rough starting point – simply place the laser in the desired position and get going. The laser will find its own weld seam, track the seam course, and guide the torch precisely.



COBOT MOVE

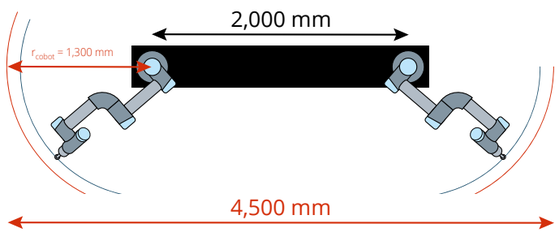
NEW

More workspace, maximum freedom.

The Cobot Move linear axis – for long, large, and nesting operation.

The Cobot Move linear axis is THE supplement for enlarging the Cobot workspace even more. The Cobot remains highly precise thanks to the high-quality ball screw drive installed in the Move linear axis in order to ensure a consistent welding quality across the entire workspace.

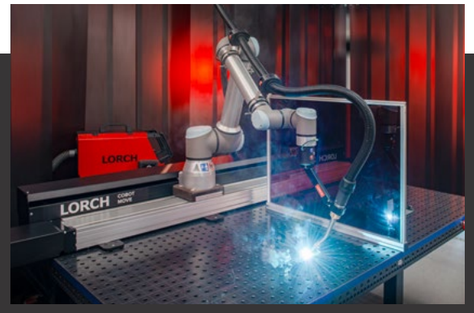
Cobot Move is truly smart: The Cobot remains CE-compliant for collaborative use without needing any additional safety technology such as laser scanners, housings, etc. This ensures true simplicity in installation of the Cobot Move as well: just a few steps are needed.



Practice-oriented solution

The Cobot can be operated collaboratively with the Cobot Move:

- **No additional safety technology needed**
- **Sophisticated axis design without any risk of crushing/shearing**
- **Automatic stop and deactivation with unplanned collisions**



Overview of your advantages

- **Movement axis (2,000 mm) to enlarge the Cobot work radius to more than 4.5 m**
- **Optimum expansion for the Cobot Welding Package on welding tables from lengths of 2.40 m onwards**
- **Allows nesting operation or welding of large parts**
- **For long weld seams: Welding is possible even when moving the axis**
- **Fully integrated control and programming of the axis via the Lorch Motion URCap**

Simply ingenious, no matter the direction.

The perfect supplement: the turn-tilt table Cobot Turn 100 A.

The Cobot Turn 100 A turn-tilt table always ensures the optimal welding position for Cobot welding. The precise positioning for any weld seam can be specified in the programme process. This increases quality, productivity, and flexibility while saving valuable time even in demanding welding tasks and roundseams.

Overview of the advantages

- **Two-axis manipulator**
  Longer welding without interruption and re-clamping since the parts need to be repositioned rarely or not at all.
- **Fully integrated Lorch Motion software**
  The dedicated URCap Lorch Motion is fully integrated into the Cobotronic software and easy to retrofit.
- **Simple and intuitive operation**
  The smart software also developed by Lorch is easy to operate. Programme processes can be configured intuitively.
- **Safety technology**
  The laser scanner and virtual housing keep the system freely accessible at all times under consideration of employee protection.
- **Ergonomics at the workplace**
  The avoidance of difficult positions and repositioning saves effort and improves workplace ergonomics.

All functions under control – simple, quick, comfortable.

The Cobot multifunction flange with function keys.

The multifunction flange takes programming from the control panel right to the robot. This not only saves time but is much simpler for specification of the welding tasks. It only takes a few minutes for new parts to be programmed and taught.

Three freely assignable buttons on the new multifunction flange permit direct execution of many functions right at the welding task: one is teaching of parts via QuickPoints, while others include tacking or wire feed/inch-retract. The execution and arrangement of the buttons is, of course, designed for operation with gloves.

Additionally, the ergonomically optimised grip of the multifunction flange permits more relaxed movement and positioning of the Cobot in Freedrive. No more annoying cable routing: the multifunction flange is now connected directly to the Cobot head.

The multifunction flange for the UR10e is compatible with any Lorch Cobot torch.

The software for greatest comfort and efficiency.

Lorch Cobotronic makes the difference.

The function scope keeps being expanded by updates and further developments – in 12 different languages to boot! The Lorch Cobot Welding World essentially differs from other Cobot solutions by its outstanding software. It is perfectly adapted to the welding technology, and therefore your needs, by our experienced welding experts – maximum user compatibility and intuitive handling makes production more efficient. **Future updates are possible as we continue to develop further features and functions for your system** – in as many as 12 different languages!

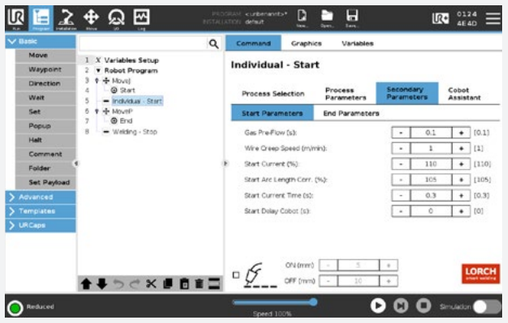
LORCH COBOTRONIC SOFTWARE

Job mode

In job mode, the Cobot will comfortably and simply take over the parameter control from the power source.

Individual mode

For real pros: individual mode permits full access to all parameters and characteristic curves of the power source right on the Cobot control.
The parameter selection is stored directly in the Cobot program, including all secondary parameters, to enable welding in perfect quality without welding in again even after weeks or months.



+ Assistant mode

Even experienced welding pros may find the selection of material, wire, and gas combinations and the proper welding speed to be a tedious and complex process at times. The Cobotronic assistance systems make this simpler and more efficient. This is because a welding speed is suggested directly according to the desired A dimension.

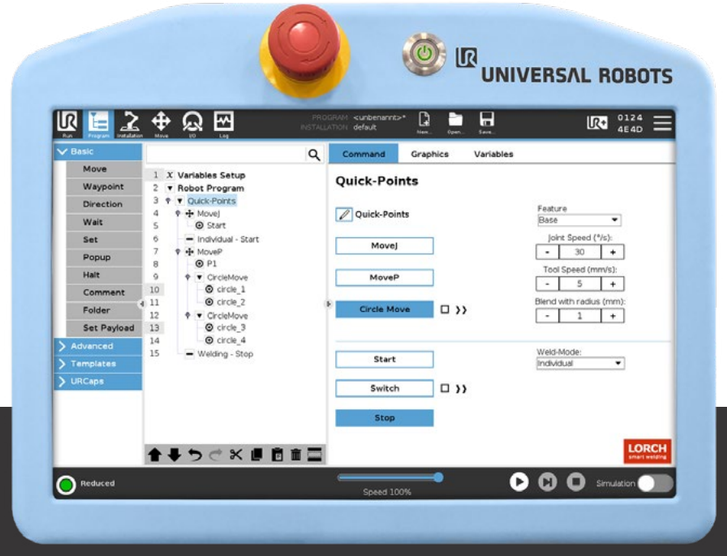
+ CobotJobs

Parameter settings can be adjusted, named, and tagged as CobotJobs as desired by the user. Simply save as a favourite and lock against changes if necessary.
Perfect for ensuring that the proper parameters are always quickly at hand and that welding goes perfectly from the very first weld seam.

Intuitive operation for quick setup and optimisation.

To the goal in a breeze.

The simple and intuitive operation of the Cobotronic software enables users to set and optimise welding parameters very quickly. The choice of three practical modes is a great help here. With its assistant mode, the software supplies parameter suggestions for optimal welding results, depending on the chosen application.



Video to the Lorch Cobotronic
https://youtu.be/FjA_9h2xbiU

The future **can be upgraded.**

Our solution for your secure investment.

The Lorch Cobot Welding World also gives you the option of selecting equipment of your Cobotronic software just as you need it. Additional functions support you in your individual production needs and work processes.

Our welding experts continually develop our scope of functions.
Later further developments are, of course, retrospectively upgradeable.

Comprehensive **additional functions.**

Best requirements for success.

The myCobot system kit offers further functions for the Cobot control.
This includes, among other things:

Interval welding

Stitch welding along a weld seam.

CobotJobs

Customise welding parameters, name them, tag them – and save them as favourites.

Spot function

Comfortable tacking – also in the program sequence.

QuickAccess menu

Get quick access to the most important functions – always quick to reach.

Integrated control

from torch cleaning stations to program functions, wire feed, and gas test.

Software-supported help

to determine the optimal welding parameters based on the effective throat thickness.

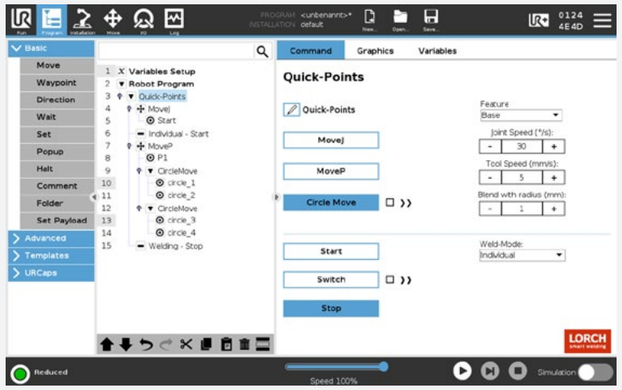
QuickPoints – unbelievably comfortable operation.

Simplest programming of waypoints and welding commands with a single click on the multifunctional flange.

Overview of the advantages:

- **Teaching "waypoints" and "welding commands" at the push of a button**
- **Selection of the "waypoints/command type" by going through the menu – also by the push of a button**
- **Direct application of the default parameters for the movement**

Even complex parts can very quickly be taught completely this way.



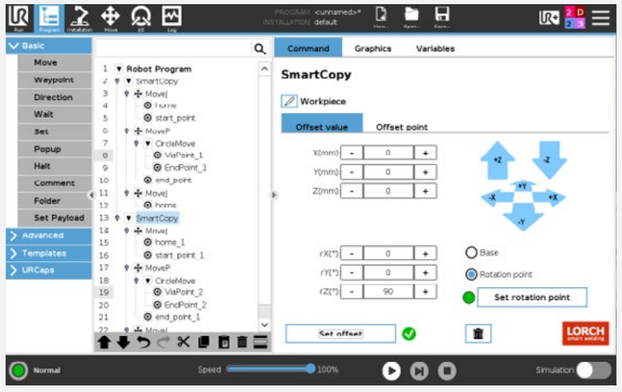
SmartCopy – for larger piece numbers in the same work area.

Copying of already-programmed welding processes for specific parts that can then be simply shifted and rotated in the work area ensures greatest productivity. This can increase performance and the produced piece number by a multiple quickly.

Overview of the advantages:

- **Moving programs/program parts based on measurements or reference points**
- **Rotating around the base or a reference point**

Copying of existing products maximises productivity.

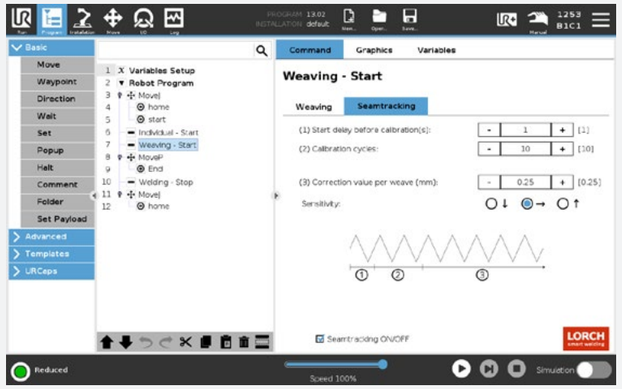


SeamTracking

Automatic weld seam correction for weaving weld seams. Distortion or bigger tolerances in the parts won't matter – the Cobot will stay within the weld seam.

Overview of the advantages:

- **Can be used for weaving fillet welds from a sheet thickness of 4-5 mm onwards**
- **Online calibration: The start of the weld seam is recorded as reference for the further weld seam. Separate welds for calibration are not necessary.**
- **Simple setting parameters: Well-structured and compact adjustment of SeamTracking behaviour**
- **Parameter tables – tested in advance in our welding lab. We supply parameter settings for many different specifications to permit quick implementation of adjustments to your part.**



Automate even more parts even with lack of tolerance accuracy and possible distortion with the Cobot.

TouchSense

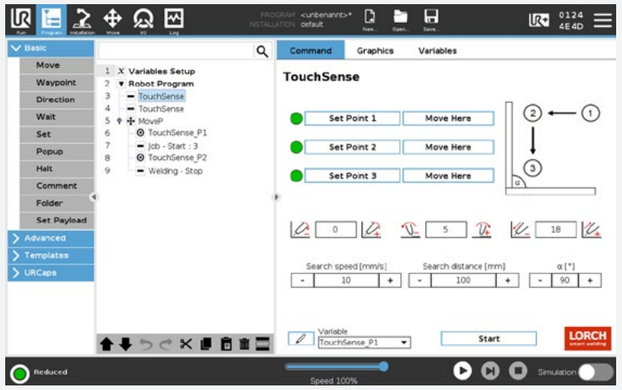
NEW

Finding the weld seam with a slight touch by the gas nozzle to compensate for tolerance deviations or workpiece variance.

Overview of the advantages:

- **Simple programming in just 3 steps**
- **Adjustable torch position and angles**
- **For different weld seam opening angles**
- **Perfect for defining a perfect start for SeamTracking**

Workpiece variances can be recorded and compensated for easily by the Cobot



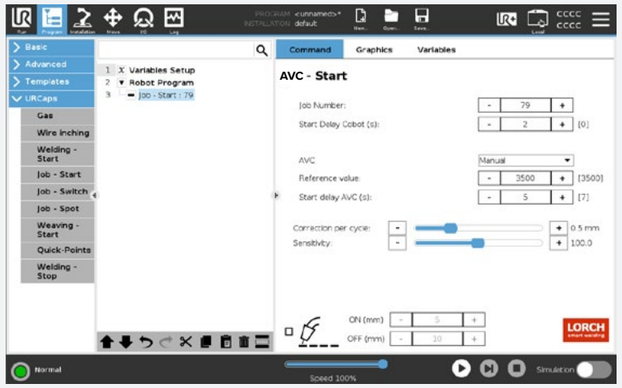
Automatic Voltage Control (AVC)

NEW

Automatic correction of the torch distance by Automatic Voltage Control (AVC) for parts with a geometry (height) tolerance or to compensate for heat distortion.

Overview of the advantages:

- **Facilitates automation of TIG applications**
- **Automatic and manual distance specifications for simple and flexible use**
- **Simple setting parameters: well-structured and compact adjustment of seam tracking behaviour**
- **Parameter tables for many different specifications to quickly adapt the adjustment to your part.**



Automated TIG welding – it's very simple with the Cobot. For perfect TIG weld seams without any rework even at tolerances in the parts or in cases of heat distortion.

Weaving – linear, radial, or along the part.

EXPANDED

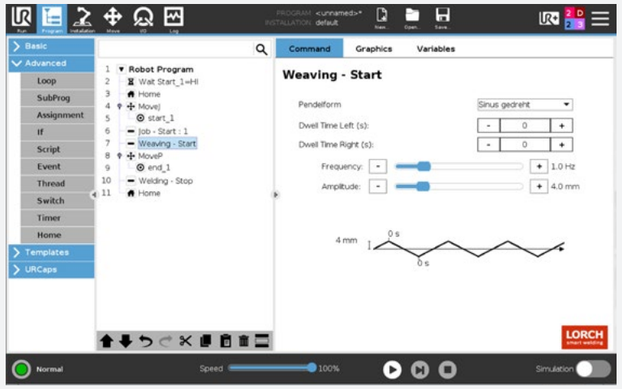
No matter if your part requires large gaps or a high throat thickness a, the weaving function will give you perfect control over the weld pool, no matter if you are working linear, radial, or along an entire part.

Overview of the advantages:

- **"Start weaving" can be selected at any time**
- **All of the following paths are performed with weaving movements – no matter if linear, radial, or in free movements**
- **Stops automatically at "welding stop"**
- **Precisely adjustable dwell time**

Innovations:

- **Weaving in combination with movements of the linear axes Move or tilt-turn table Turn 100A**
- **Weaving forward and backward along the weld seam**



Weld seams made with weaving, just as you need them – easy and flexible adjustment possible

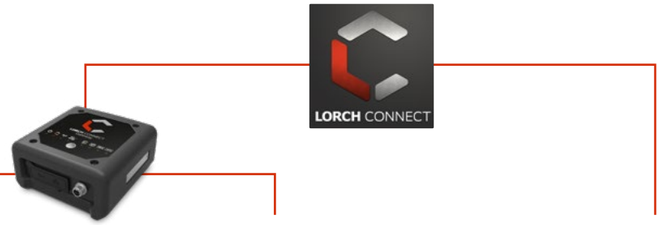
Your perfect gateway into the **digital era.**

Use Lorch Connect to digitise, analyse, and reliably optimise your welding processes.

The start into the Lorch Cobot Welding World takes you one step closer to Industry 4.0. Take two with the Lorch Connect Gateway, now serially integrated. It allows you to use Lorch Connect, the simple and cost-efficient cloud solution for reliable recording and analysis of your welding production data, comfortably and without any additional costs!

Performance and analysis, as well as documentation of results, are particularly important for automation. Enjoy free access to the Lorch Connect Portal for 1 year and try out the digital services entirely without any risk.

How it works:



Connect.

Connect the Lorch Connect Gateway to your Lorch welding system. The Lorch Connect Portal connects via WLAN or LAN.

Weld.

Production-relevant data are recorded by the gateway and transmitted to the Lorch Connect Portal for you in real time.

See clearly.

Call up the Lorch Connect Portal anywhere comfortably by web browser and profit from evaluations and analyses of your welding production at any time.

For further information about Lorch Connect
https://en.lorchconnect.com

Best scores for the Cobot.

Make your team even stronger.

The Lorch Cobot automation solutions bring cost benefits and time savings in many industries.
Contact us – we will enable a simple start into effective welding automation for your company as well.

Trailer

Agricultural machines and attachments

Vehicle construction and construction machinery

Railbound vehicles

Mechanical engineering

Metal construction

Sheet metal processing

Door and facade construction

Cobot presentation. **Individual and digital.**

Comfortably at the screen. Flexible and efficient.

Very simple programming of many features from our myCobot modules. Have a look at the innumerable options of the Lorch Cobot Welding World comfortably at your screen.

- **Greatest flexibility:** Pick the time for your presentation – simply schedule an appointment.
- **Best quality:** Presentation and consulting by a Cobot specialist.
- **Practice-capable:** The focus is on your applications. Let us show you the solutions to match.
- **Double efficiency:** Save travel time and expenses. Bring along all of your colleagues digitally.

Schedule your free appointment right away.

Simply scan the QR code and get your desired appointment quickly and easily with just a few steps – and enjoy a presentation that will surely pay off for you!

Are you not **convinced yet?**

Read the reports of success from practice.

In the last years, Lorch has successfully implemented many Cobot automation solutions for customers. Use the links to the detailed practice reports from our customers to learn more about the results and benefits in their production processes.

Jorado Maschinenbau GmbH

"The Cobot has certainly outdone our expectations. The perfect interaction of Cobot, power source, and software has created important new capacities for us. The new system also relieves our welders, who are now able to focus on their core competence much more. On top of this, young people who like to program and handle EDP will also find welding more attractive thanks to being able to handle the Cobot."

Jürgen Tippe, head of operations

To the detailed practice reports

MADE IN GERMANY

A team of experts are ready for you.

Our Lorch Cobot partners can be found across Europe, and surely also in your area.

Learn about further advantages of the Lorch Cobot Welding World from your qualified Cobot partner on site: personally, close to you, and quick!

Simply try out our Cobot automation solutions there on a demo system in a live demonstration and experience it for yourself.

Your Cobot contact:

For further information, see
www.lorch.eu/en/cobot-welding

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