

**MAKE
YOUR TEAM
STRONGER**

LORCH COBOT WELDING

LORCH
smart welding

LACK OF SKILLED LABOUR, COST PRESSURE, TECHNOLOGY GAP?

Problems finding welders?

The supply on the market is exhausted, labour costs are surging. How do you manage to stay profitable and develop your company further under these circumstances? Simply training your own employees will not suffice to offset this shortage.

By contrast, relying on a technology that will motivate your experienced employees and make their lives easier will solve your staffing shortfall in no time. This will help you join the ranks of employers who attract young welding professionals and who enjoy working with the technologies of the future.

Manufacturing at attractive conditions?

Optimise your use of precious skilled labour and assign the right jobs to personnel with low operator qualifications. Without compromising on quality and even boosting your profitability. Collaborative robots – in short: Cobots – are the solution for mid-sized companies.

They relieve your qualified welders from tedious and repetitive tasks and allow you to tap into new opportunities for your welding production to grow.

Investing in the future?

Digitisation affects all areas of life and work. Every entrepreneur needs to ask this question: Where, how and what do I invest to prepare my business for the challenges that lie ahead in the years to come. In the future, specialised welding companies will undergo changes that are brought about by digitisation and automation.

Welding with the help of collaborative robots is a first major step in mastering this future.



WELDING REDEFINED

Collaborating means working together.

Cobot welding: Man and machine support each other during welding.

The Cobot completes a precise movement of the torch, while the welding system delivers the perfect weld – over and over again. A system born for automating small and medium production runs. In the past robots were limited to round and longitudinal seam welding, but now robot welding excels especially in the areas of contour and segment welding. Once set up properly (which is the main responsibility of the welding specialist in charge), the Cobot will weld complete batches with perfection.

The welding specialist stays in complete control of the system, the Cobot acts as a tool, and the execution of the jobs is delegated. Straightforward and requiring only minimum investment costs, this type of automation is the solution to major challenges that are currently problematic for the industry, e.g. lack of skilled labour and increasing cost pressures. One key factor is the ability to use collaborative robots without any special additional protective equipment. The exceptional ease with which they can be installed and operated allows Cobots to become an essential team member at your company in no time at all and without the need for extensive training.

Cobot welding is robot welding for medium-sized companies.
With the difference that it is extremely easy.

LORCH MAKES THE COBOT A NEW WELDER ON YOUR TEAM.

Your additional support comes from Lorch

Cobot welding offers an easy entry point into the world of automated welding and a first step towards Industry 4.0. Weld small to medium production runs quickly, easily and at a reasonable budget. The Lorch Cobot Welding Package

is tailored perfectly to the needs of specialised welding companies, can be integrated seamlessly into their production and enhances their competitiveness. The time has come for a new type of welding.

Services

You can obtain the Lorch Cobot Welding Package from your local Cobot partner. Because one thing is paramount to us: up-close and personal service from the beginning and no extensive waiting times. This is why all of Lorch's Cobot partners have undergone special training programs so that they can provide you with the best Cobot welding support right from the start. No matter what type of service you require – be it consulting, training, technical service or an attractive financing offer – you are in the best of hands with our Cobot partners.

Welding

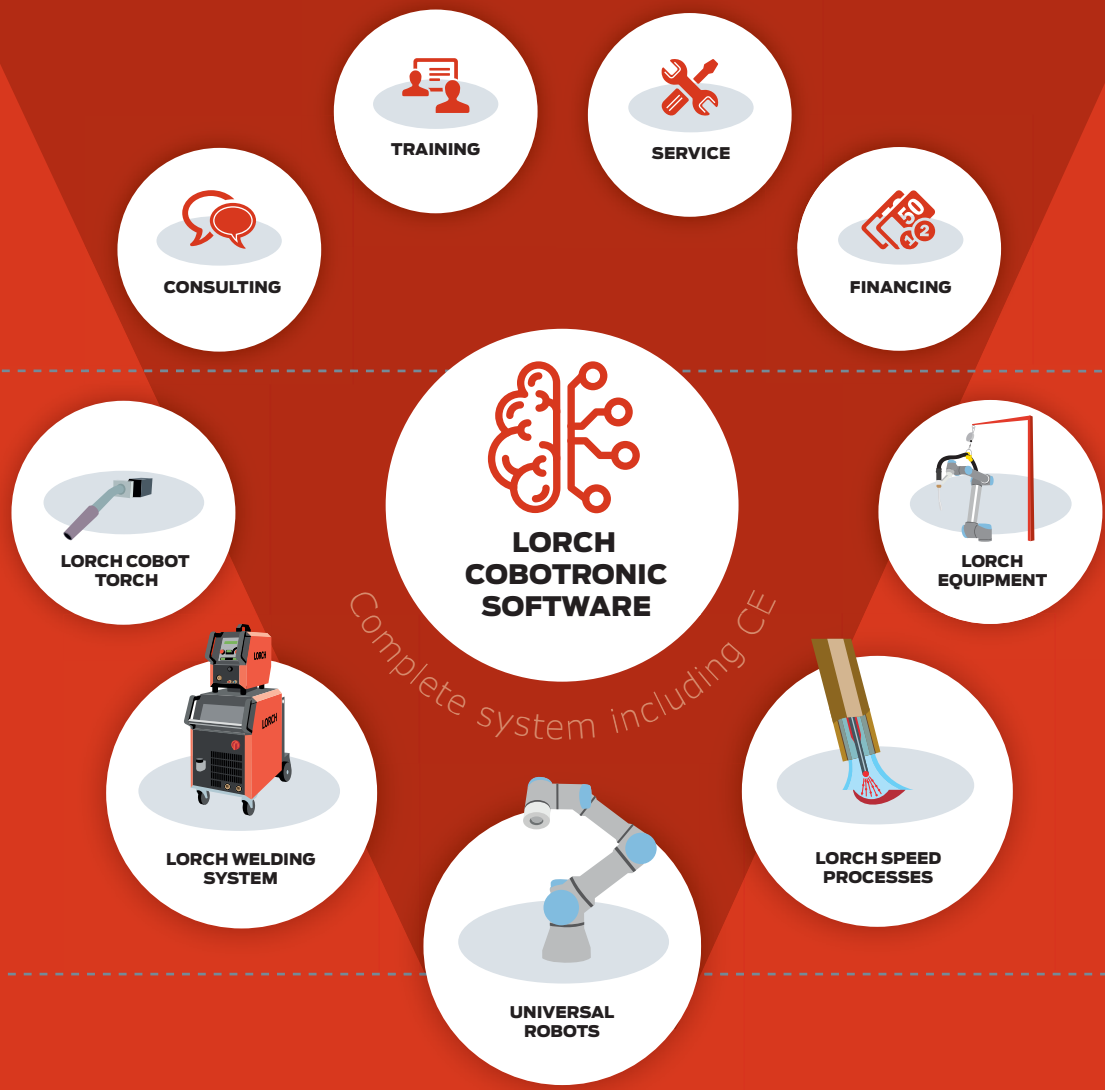
The Lorch Cobot Welding Package is the product of more than 60 years of concentrated expertise in welding technology, innovative Lorch Speed welding processes and a great many years of experience in engineering welding solutions for automation and robotics. The pairing of a premium Lorch welding system with the specially developed Cobotronic software offers maximum synergy benefits and guarantees top quality and productivity during welding. The package is made complete by matching accessories that are customised to your needs.

Cobot

Cobots open a new chapter in the history of welding production and convince with their intuitive operation. Boasting more than a decade of experience in collaborative lightweight robot systems, the current market leader in Cobots brings you the UR10, a system that provides everything that is essential to a medium-sized welding company.



MAKES YOUR TEAM STRONGER



Services

+

Welding

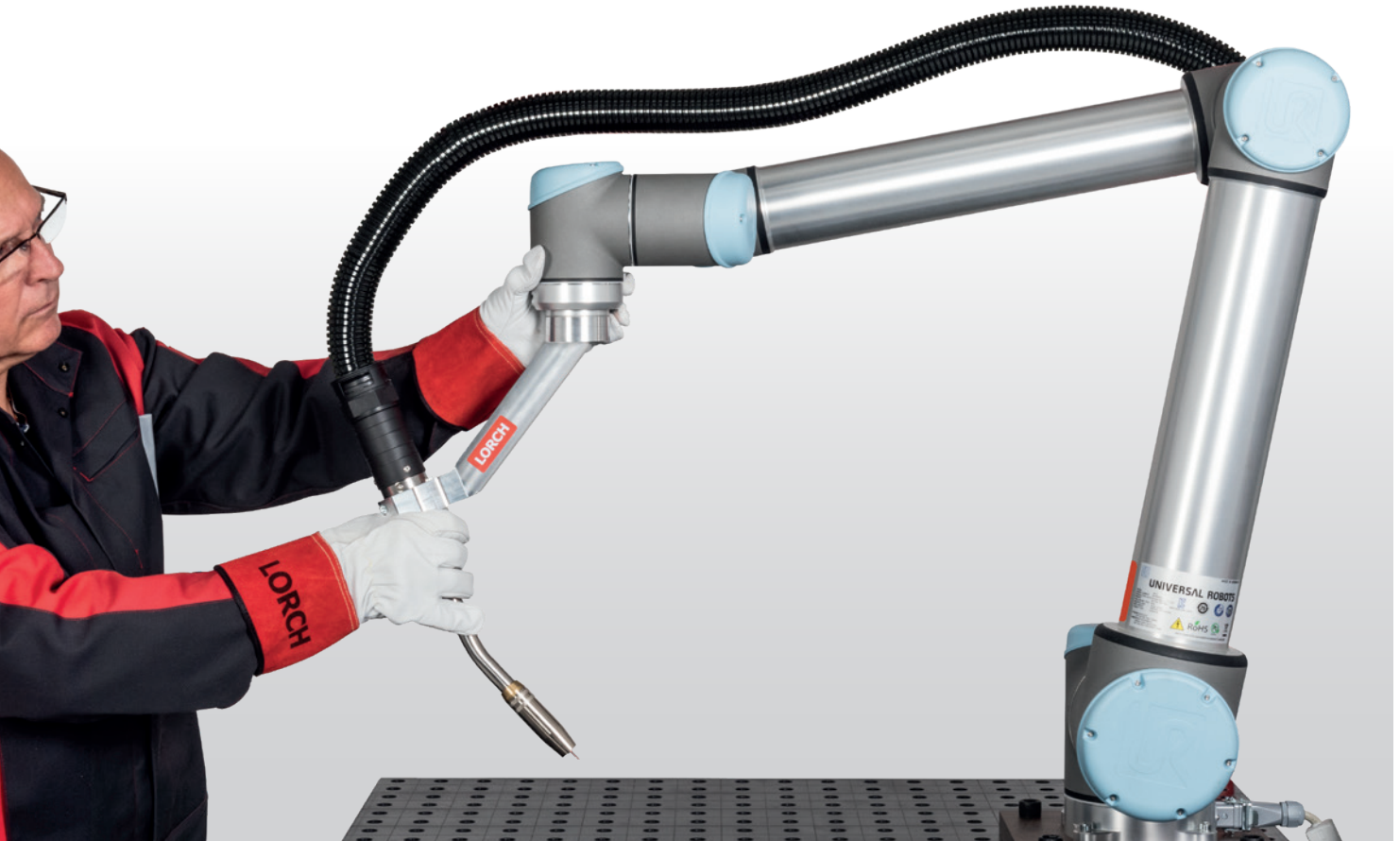
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Cobot

LORCH COBOT WELDING PACKAGE

COLLABORATING & SAFE

An arm that changes the game



Cobots open a new chapter in the history of welding production and operate with a moving arm that provides the workers with powerful assistance during their daily work routine.

Unlike an industrial robot, the Cobot does not have to be housed in a protective cell. Lightweight construction and integrated safety technology, which will set the robot arm to idle after being touched, make it possible to operate Cobots in an environment with immediate interaction with human beings. This will not only lead the worker to perceive the Cobot as a natural automation tool for their daily work but also helps save a tremendous amount of production space.

When not in use, the Cobot simply returns to its home position, clearing the welding bench for other tasks. The phenomenal ease with which it can be programmed and

its intuitive operation make it a cinch to enter into this new world of welding and ease the load on the welder during the production of small and medium production runs:

- The responsibilities of the welding specialist are reduced to setting up the Cobot. This frees up capacity, allowing the welder to shift their attention to other, more demanding tasks.
- The loading and removal of parts into the welding fixture as well as the release of the pre-programmed welding sequence can be done by semi-skilled labourers – with no detrimental effects on the welding results.

Smart addition to your production planning: Cobots will work 365 days a year at a consistently excellent level of quality.

Straightforward operation: Thanks to a touch display and intuitive user interface

From the start, the intuitive user interface makes it easy to learn and use this new technology. You quickly gain a firm grasp of the basics and can extend your knowledge in a concise, 3-day training program on commissioning, operation and the included welding functions that is designed to enable you to: Use the Lorch Cobot Welding Package **straight away for the benefit of your company.**



The new way to program: Free Drive function

You can activate the Free Hand function to manually move the Cobot/the torch to the position where it is supposed to start and end. You use the same function to program intermediate points and sections. **Quickly and simply without the need for extensive prior experience.**



Part of the Lorch Cobot Welding Package: The UR10 by Universal Robots

Boasting more than a decade of experience in collaborative lightweight robot systems, the current market leader in Cobots brings you the UR10, a system that provides everything that is essential to a medium-sized welding company:

- **extensive range**
- **sufficient bearing load**
- **low-maintenance technology**
- **sophisticated technology**

Technical data of the UR10	
Weight	28.9 kg
Action radius	1300 mm
Bearing load	10 kg
Repeat point-to-point accuracy	+/- 0.1 mm
Degrees of freedom	6 rotating joints
Joint rotation	+/- 360 °
Power supply	230 volts 1~
Other	1-year manufacturer's warranty, optional 2-year warranty

LORCH S-ROBOMIG XT MIG-MAG IN PERFECTION

The heart of the Cobot Welding Package

For years now, Lorch has been pushing the envelope in the field of MIG-MAG pulse welding with the S-XT series. It is for good reason that we refer to this welding system with its **digital-intelligent process technology** as the master of the pulse arc.

The **Cobot version** of the S-RoboMIG XT **with the wire coil support housed in the feeder case and its cylinder trolley** not only settles the question of where to put wire coil and gas cylinder but also retains its full mobility for your production, allowing you to use it as a hand-held machine if necessary.

Delivering 400 A and top-level duty cycles, the system is guaranteed to cover a wide range of applications. The **special Cobot interface** allows for deep integration into the Cobot control and creates new options for controlling Cobot welding by software. The S-RoboMIG XT will realise its full potential when used with **full process equipment**. All Lorch Speed and other special MIG-MAG processes are included as standard, allowing you to **gain the maximum from your weld seam** when it comes to quality and productivity. To some businesses, Lorch Cobot welding signifies the first opportunity to switch from TIG welding to the more productive MIG-MAG welding.

To keep the user safe by cooling down the torch quickly, the **water cooling system offers enhanced cooling performance**.

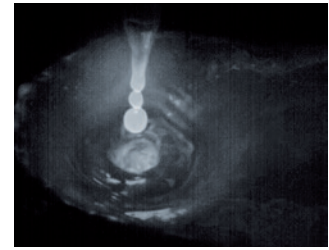


Technical Data S5-RoboMIG XT	
Welding current MIG-MAG	25 - 400 A
Current at 100% duty cycle	320 A
Current at 60% duty cycle	350 A
Duty cycle I max.	50%
Mains voltage	3~400 V
Mains fuse, delayed action	32 A

All special welding processes included. For maximum productivity and quality.

SpeedPulse XT

The unique quality of our patented XT regulation technology: Combining the high-quality pulse welding process with a subsequent spray arc-like material transition, gives a tremendous boost to the deposition rate and welding speed. The regulation the S-XT provides has never been faster or more exact. And, it delivers this type of speed and accuracy in every pulse phase. The result is an extremely robust and stable arc with virtually no spatter.



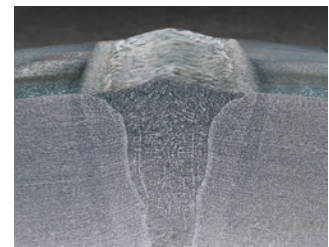
TwinPuls XT

TwinPulse XT controls and separates the heating and cooling phases. This translates to significantly lower and more systematic heat input into the workpiece as well as much lower distortion, resulting in notably less rework. Especially customers who often relied on TIG welding will appreciate the new opportunities offered to them by the TwinPulse XT process. Welding speeds are increased considerably, made more efficient and produces results with a visual appearance comparable to that of TIG seams.



SpeedArc XT

SpeedArc XT impresses with a particularly focused arc and significantly higher energy density than comparable processes. This achieves a particularly deep penetration into the base material which cannot be compared with the penetration performance of normal MIG-MAG systems. The greater arc pressure that flows into the weld pool makes MIG-MAG welding with the SpeedArc XT noticeably faster and, consequently, much more economical.



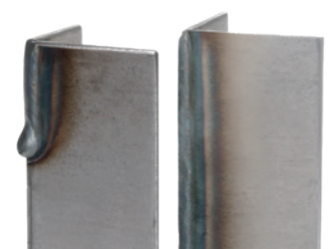
SpeedUp

Welding vertical seams poses a major challenge – even when the seams are welded by hand. Accomplishing this task with a robot is next to impossible, which is why robot cells are often used in combination with expensive tilt and turn positioners. Inconceivable when using a Cobot, but also no problem thanks to SpeedUp. The combination of a high-current phase for optimum melting of the material and a phase with reduced heat input for good penetration allows your Cobot to master the vertical seam with constant travel speed.



SpeedCold

SpeedCold keeps the arc stable during thin sheet welding and puts an end to troublesome spatter. Even extra thin sheets can be welded easily with SpeedCold. Any spatter that does occur is so “cold” that it will usually not stick to the material. SpeedCold truly shines when used for welding butt, lap and corner welds on thin sheets.



LORCH COBOT TORCH

Cool finger – top performance

Essential to the welding performance during work with a robot is the perfect marriage between welding system and torch. This is why we developed a special robot torch as the perfect complement to your Lorch Cobot Welding Package. Its Cobot welding performance on steel and stainless steel is exactly as you would hope: **the LMR 450 W.**

- Sporting a sleek design for perfect access to the component
- Extra robust thanks to the high proportion of stainless steel in the torch components that are exposed to contact

- A duty cycle of 100 % at 450 A will not turn the torch into a limiting factor of the system
- A corrugated tube hose package which keeps hoses and cables perfectly safe from kinking and damage caused from abrasion
- Massively cooled by a **special double circuit cooling system** for extended service life and improved user safety

Equipped with wear parts that provide for optimum current transfer and maximum welding performance.



The **torch holder** is designed to combine maximum stability with a minimum interference angle, providing the operator with perfect access to the component during daily use.*



Hose package handling:

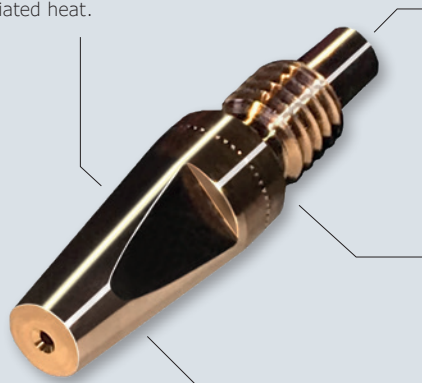
To keep the hose package of the torch from obstructing the movement of the Cobot, each package arrives with a special boom. Just like the mounting plate of the Cobot, this component can be attached to a welding bench with a 16 or 28 hole pattern. A cable holder keeps the torch hose package securely in place, while the compact balancer ensures the proper distance to the axis and joints of the Cobot.



Lorch contact tip – form follows function*

The Cobot – just like any other robot – has to rely on optimal components to deliver the best possible welding performance. This also applies to one of the smallest parts in the system: **the contact tip.** This is why we have devoted special attention to this detail. A quick glance is enough to realise that it looks like no other.

The **narrow shape of the tapered nozzle** results in reduced thermal stress from radiated heat.



Moreover, the **self-centring properties of nozzle holder and contact tip** increase the TCP accuracy of the wire after a wear part change.

The **special shape of the transitional area** between contact tip and nozzle holder improves the contact behaviour and enlarges the surface relevant to current transmission by approximately 15%.

The **special copper alloy (CuCrZr)** extends the lifespan and the service life of the contact tip significantly.

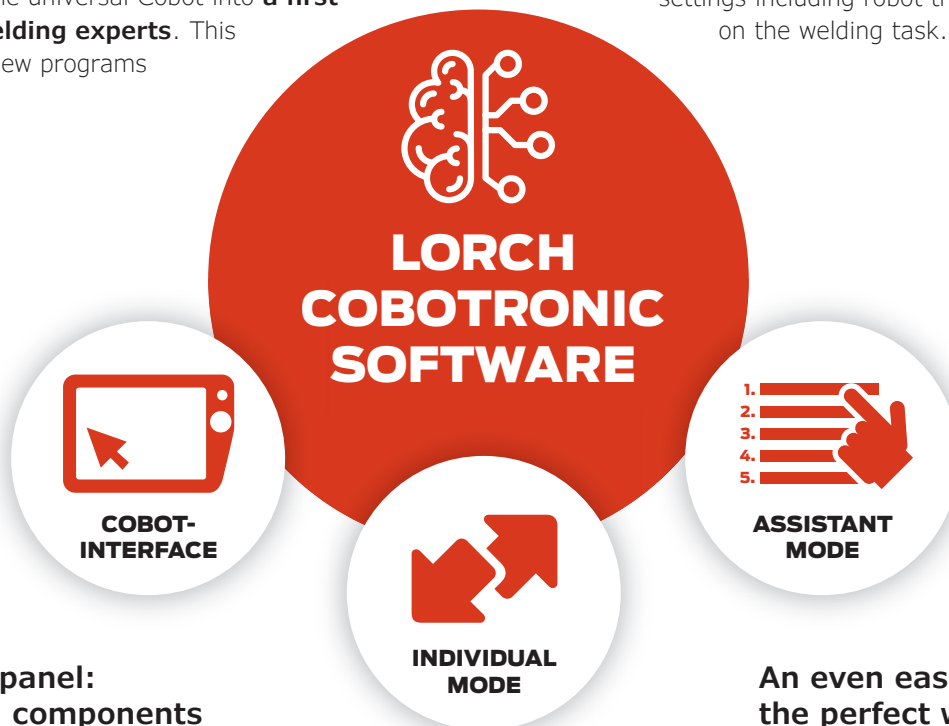
*only for packages with LMR 450 W

LORCH COBOTRONIC

The brains of the Cobot Welding Package

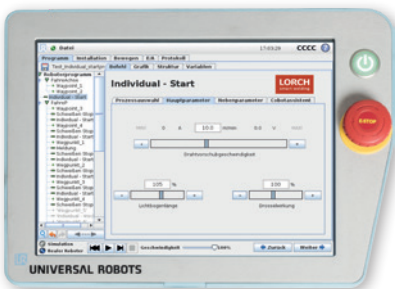
The distinguishing feature of the Lorch Cobot Welding Package is its software. From our welding experts for your welders: perfectly matched to the welding equipment made by Lorch. The addition of special control functions turns the universal Cobot into a **first-rate tool for welding experts**. This makes creating new programs a cinch.

You can choose between the **classic Robot Job Mode**, the **advanced Individual Mode** with full parameter access to the power source or the **innovative Assistant Mode**, which suggests to the user optimum system settings including robot travel speed based on the welding task.



One control panel: Access to all components

The Cobot allows the welder to control all functions with one hand. Thanks to the Lorch Cobot interface, the welder has complete access to all relevant functions of the welding system from a single control panel.

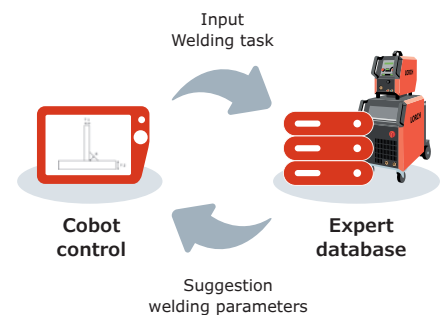


Cobot and welding parameters: Everything in one place

While the classic job-based mode leaves a great many parameters stored in the welding system, Individual Mode makes it possible to select, set up and save all relevant parameters in the robot control. Monumental advantage: This makes backing up the parameters a breeze and makes work easier thanks to the ability to load existing programs.

An even easier way to the perfect weld seam

You will always have quick access to the best settings, perfectly matched to the power source, the welding process, and the torch. Simply tell the Cobot control what you wish to weld (e.g. fillet weld, 6 to 4 mm steel), and the system will suggest parameters for the best possible welding process, detailed parameter settings and even the travel speed of the robot best suited for the job.



STRONG ON YOUR SIDE

Your Lorch Cobot partner



CONSULTING

Honest and competent

You are in the best of hands at our Lorch Cobot partners. The staff at our partners possess profound expertise in the field of Cobot welding, know the aspects to factor in when entering into the world of automated welding, and are always happy to share their advice with you.

Buy what you see

When purchasing the Lorch Cobot Welding Package, you are buying exactly what you see at a price that will not break the bank. Every qualified Lorch Cobot partner has a demo system, which they gladly use to demonstrate the advantages Cobot welding has to offer. The Lorch Cobot Welding Package is a worthwhile investment. The trust of this statement is immediately apparent.



TRAINING

Cobot welding training on site

Just the way a robot training program should be: concise, held on your premises, and offering maximum effectiveness in the short span of only two days. The training provides user-oriented knowledge in a way that is short and to the point. The introduction is given on special training workpieces prepared by Lorch in order to ensure that all necessary topics are covered as an integral part of the training.

Geared towards practical use and immediate productivity

As soon as your welders (two staff members per training program) are able to independently program the samples, we will switch to real-world use and shift the training to your own, pre-prepared workpieces. This lets your employees gain experience in Cobot welding that is directly linked to their work at your company and allows them to put the Lorch Cobot Welding Package to productive use and set it up for additional tasks immediately after conclusion of the training.

If you have additional need for training or wish to have other employees trained in Cobot welding with the Lorch Welding Package, our Lorch Cobot partners will be happy to help and advise and prepare a quote for you.

For an overview of all current Cobot partners, log on to:

www.lorch-cobot-welding.com/en/partner



SERVICE

Commissioning on site

Your Lorch Cobot partner will deliver your package directly to you and set it up for operation in just one day. You as the customer will be given hands-on instructions on all important aspects of operation (basics of operation, information on the torch and safe handling of the welding robot, etc.).

Comprehensive support from a single source

An automated welding system can only play to its strengths if it operates properly. This is why we put our trust in Lorch Cobot partners. They all possess the certified expertise and all-around knowledge necessary to excel at welding. You can trust that your welding needs are in the best of hands at our Lorch Cobot partners.

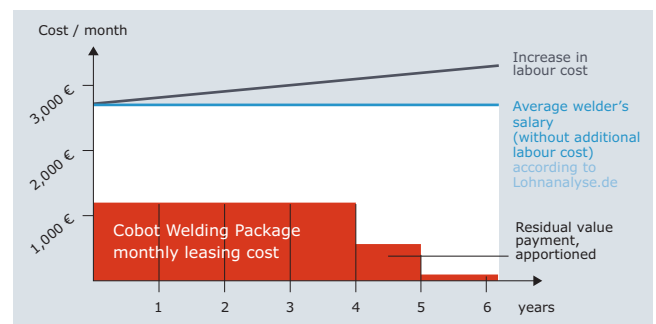


FINANCING

Cobot welding starting at €1,200 a month

The Lorch Cobot Welding Package is a particularly good investment for small and mid-sized companies. Your Cobot partner in cooperation with our financing partner will gladly draw up an attractive leasing offer for you. An example: Based on a 4-year term and a residual value of 10 % of the original cost, monthly leasing rates start at €1,200 (price level 11/2018).

This corresponds to less than half of the average labour costs associated with employing a welder in Western Europe:

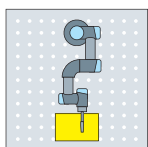


MAKES YOUR TEAM STRONGER

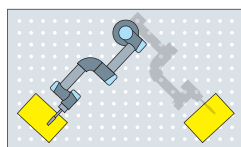
The Lorch Cobot Welding Package



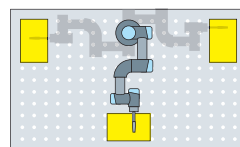
One package – multiple options



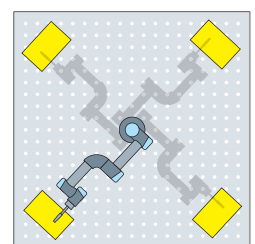
1 workstation operation



2 workstation operation



3 workstation operation



4 workstation operation

More information:
www.lorch-cobot-welding.com



	Package A	Package B	Package C	Package D
UR10 including control and touch control panel	●	●	●	●
Lorch S5-RoboMIG XT with wire feeder and 3-year industrial warranty	Workshop wire feeder	Workshop wire feeder	Double wire feeder	Workshop wire feeder
Hose package 70 mm ²	1 m	10 m	1 m	1 m
Full process equipment	●	●	●	●
Special Cobot interface	●	●	●	●
Water cooling system with enhanced cooling performance (1.5 kW)	●	●	●	●
Lorch LMR 450 W Cobot torch, 3.5 m including original equipment kit	●	●	●	-
TBI PushPull Cobot torch 3.5 m including original equipment kit	-	-	-	●
Boom, equipment for hose package handling, foot switch, function button with emergency stop, mounting plate, ground cable 70 mm ² , basket spool adapter	●	●	●	●
CE mark according to DIN EN 12100 (Intended use: Cobot for welding on a welding bench)	●	●	●	●
Cobot Welding Package with 1-year Cobot warranty	Item no. 240.5001.0	Item no. 240.5003.0	Item no. 240.5005.0	Item no. 240.5007.0
Cobot Welding Package with 2-year Cobot warranty	Item no. 240.5002.0	Item no. 240.5004.0	Item no. 240.5006.0	Item no. 240.5008.0

Perfectly equipped for steel and stainless steel

Every Lorch Cobot Welding Package ships with a wear part original equipment kit for steel and stainless steel (1.0 and 1.2). Also included is an extended nozzle holder for a further significant boost in welding performance during use on stainless steel.

Lorch Schweißtechnik GmbH
Im Anwänder 24–26 · 71549 Auenwald · Germany
T +49 7191 503-0 · F +49 7191 503-199
info@lorch.eu · www.lorch.eu

LORCH
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820.00711 | Issue 2 | 08.2019 | Technical changes and printing errors reserved.