The Principle Quality

Lorch Industrial Product Range
Welding & Cutting

LORCH

The Principle
Quality

Topics

The quality principle

Technology & Innovation

Products

Manual metal arc welding

MIG-MAG welding

MIG-MAG mobile

MIG-MAG step-switched

MIG-MAG infinetely variable

MIG-MAG Pulse

TIG welding

Welding data documentation

Workwear

Automation

Your new productivity is

If a welding system was asked where it would like to

There is a world of experience in a Lorch system!
For more than 50 years we have been developing and producing the highest quality welding systems which are among the very best available. Auenwald is home to our factory, which houses one of the most modern production facilities in the world for welding systems. Auenwald is located right next to Stuttgart, which is one of the most important high-tech locations not only in Germany and Europe but also the rest of the world.

Its not only extremely exclusive and fascinating automobiles which are produced here, but also outstandingly productive welding processes and systems which in-turn increase manufacturing quality and output. With a lot of ambition, hard work and inventive talent, we succeed again and again in making our systems even better. So much so that we gained the German Innovation Prize from the Federal Ministry for the Economy and Technology.


produced under this sky.
be born, it would reply: Auenwald, Germany.
LORCH

Quality – Made by Lo

That is our promise to you. So that in turn you achieve more easily. Because it is only with genuine high quality

Lorch fact No 1.
Great quality does not come cheap.

In fact it can be said that Cheap and Nasty go together! For some, the online discount or the DIY store around the corner is good because cheap machines can be bought there. However, it is questionable whether the “bargain” with an unknown origin or made elsewhere is also able to impress with “peak performance”. There is also the question: Do you want your machine for a hobby or will it be used in a professional manner? A good welding system consists of up to 700 individual parts. And each individual part must perform its function exactly and reliably. When we send a machine to you, we never want to see it again!

Lorch fact No 2.
The quality of your work increases with the quality of your machine.

We repeat: A good welding system consists of up to 700 parts whose individual quality plays a very important role. The art of mutualising the single components to work together is the second stage. It is like an orchestra. Who would let a shoddy violin be included, especially when it is also played too early and out of time with the rest as it would surely gamble away the quality of the finished item. Whether a welding machine is truly good or mediocre cannot be seen from the outside – you have to weld with it. Unless of course it is red and comes from Lorch. And then you can take our word for it!

rch

more productivity and a higher level of quality work, that good money can be earned today.

Lorch fact No 3.
Quality is required where it directly influences your quality.

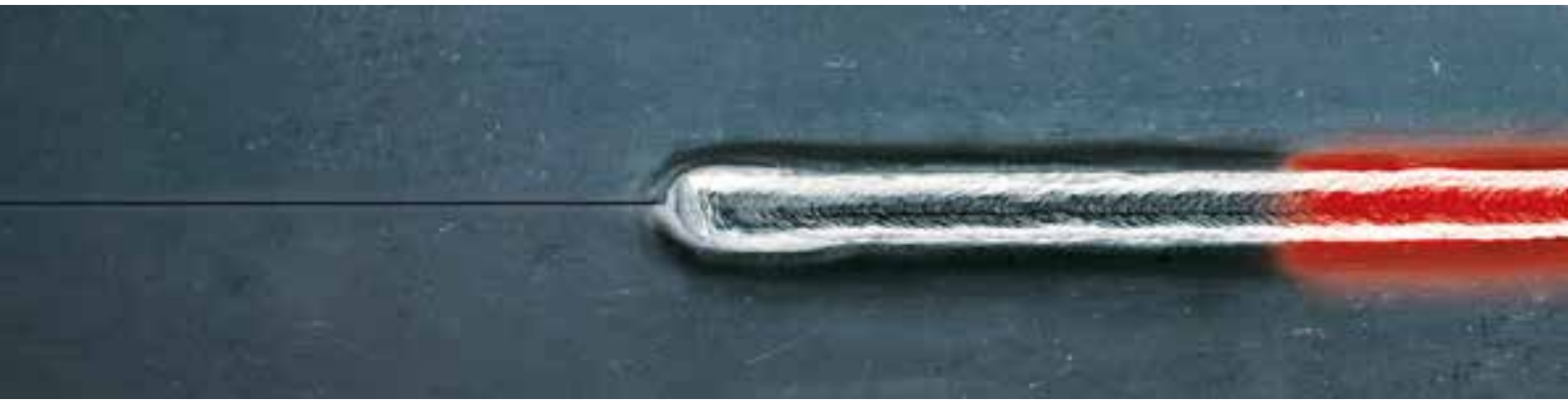
Lorch systems are designed for practical use. The same quality outside on the construction site as within the workshop. With a consistent user-related understanding of quality: offering what is required and everything that can be done. There is half a century of experience in every Lorch machine. This is the knowledge of the best functions, the best operation and the best welding results. Maximum of 3 steps to weld perfection. That is our philosophy and the operating concept for our systems. You do not have to serve a Lorch system. The Lorch system will serve you.

Lorch fact No 4.
Only people who live quality can create quality.

Quality for us at Lorch is more than just an advertising promise. We consider quality as a matter of honour and integrity. Perhaps that is because we work in Auenwald, far away from all distractions. We are somewhat like professional mountaineers: for the development and production of welding systems. We always look for the highest and hardest to reach of all of our goals. Then we mobilise all of our experience, our ability and our imagination to achieve these heights – for genuine quality!

LORCH

The Principle: Progre
Welding Systems – M



More than 50 years of innovation.

When Bruno Lorch founded our company in 1957, he probably could not imagine that Lorch was to become one of the most innovative companies and driving forces in global welding technology 50 years later. Numerous innovations, from the first portable electrode welding machine to CAN bus integration, to the groundbreaking MICOR technology. That all demonstrate the inventive talent of the Lorch development engineers over the decades.

Only practical use matters.

Yet, with all the research drive and wealth of ideas, we have always kept to what really matters: the practical use. Because we believe genuine progress is only what benefits the welder in everyday use. Let's take the Lorch S-SpeedPulse as an example: with this, welding is not only up to 48 % faster, it also offers perfect handling which means that practically no post-weld reworking is necessary. We call this productivity.

Quality Made in Germany.

There is a Europe wide quality requirement which all welding power sources with arc technology should comply to. DIN EN 60974-1 is the corresponding German quality standard. We are committed to this defined level of quality and we even go further. For example with the guaranteed fall protection of our portable equipment. Therefore, we are happy to confirm with the CE marking that our welding power sources do fully comply and even exceed the applicable directives.

ss through Quality.
ade in Auenwald

IP23 + S-symbol.
For safe welding.

Welding power sources which can also used outdoors must meet a minimum of the protection class IP 23.
Only devices, which are deemed suitable for welding in environments with increased electrical danger, are allowed to carry the S-symbol. Both of these go without saying for Lorch.

100 % real values.
And then you can take our word for it!

For Lorch, the data plate is a symbol of the truth. If we write “200 A” on a machine, you can rely on this. 200 amps from Lorch really are 200 amps. In fact so much so, that we guarantee the accuracy the values we specify. If you ever find that your unit fails to live up to this claim, return to us. We will give you your money back. No matter how old it is.

3 steps to achieve weld perfection.

Easy operation is an art. Making this possible requires an extremely large amount of care, knowledge and time in order to save you time. Very few master this – for some reason many manufacturers like making it difficult and complicated. Our machines show how simple it is: 3 steps and everything is perfect.

LORCH

3 years industrial guara

For us, “Made in Germany” quality

Giving more.
Quality makes it possible.

The European law currently requires an enshrined warranty against material and manufacturing defects of 1 year for commercial use. We can easily accept this requirement due to our view of quality. In the case of proper use, in accordance with the operating manual, you have a warranty on our welding machines of 1 year from the date of purchase and 2 further years at no charge. All told, that’s 3 full years Lorch guarantee. That is top class in international comparisons. So we are consciously distancing ourselves from guarantees which only have a validity of 1 year, apply only to manufacturer’s parts, or cost money to extend – our promise applies to the complete unit – because our quality makes it possible.

3 times longer
than required by law.

In single shift operation, that is up to 8,760 hours for you. For one year with 365 days multiplied by 3 years. We guarantee the function of our products in this period. We can do this because we are sure that not much can go wrong with a unit or device bearing the Lorch name.
However, if a fault does occur, we will correct it and bear the costs. This does not apply for wear and consumable parts. We are sure you understand why.

www.lorch.eu/warranty

ntee on all welding units
applies to service calls too.

3 years – full Lorch guarantee.

As an expression of the confidence in the quality of our products, we can offer the 3 years manufacturer's guarantee. To you as a user of our equipment, this provides improved service, more certainty, and at the same time creates a solid basis for a profitable use of the Lorch products. In the unlikely event that a guarantee claim actually arises within the three years after purchase of your Lorch product, our technical service team, in-collaboration together with your local Lorch service partners, will ensure a rapid solution.

We go further – 5 years on main rectifiers and transformers.

What other manufacturers make a big deal of has been solid reality at Lorch for a long time.
With us, quality is found in everything – from the smallest to the largest component. With us there is no "Made somewhere unknown" or "Made somewhere else". That is why for selected components for our units, such as main rectifiers and transformers, we go even further and provide you with a 5 year guarantee.

If you register, you will benefit!

Prerequisite for guarantee: As the first customer, you must register the product with us within 30 days of purchase. Then we know where our unit is working, and for whom we should perform our service. Otherwise we CANNOT fulfil and provide this guarantee.
We have clearly and transparently described for you the services, which will be performed, under guarantee, in a warranty brochure which is supplied with every new Lorch unit. Immediately after registering, you will receive your guarantee certificate.

The Lorch MMA range

Electrode

ACCU READY

ACCU TECH

WORLD INNOVATION:
Battery-powered welding

The MicorStick Series

Lighter. But better. The best for electrode welding. Full Micor power even with the single-phase range.

MicorStick raises the bar not only from a visual standpoint. Its modern housing design is indicative of the **new standard** this system is setting in the area of electrode welding: MicorStick 160 is the first fully resonant inverter welding unit that operates on 230 V mains power featuring Lorch's patented **Micor technology.** Weighing in at a mere **4.9 kg,** this unit is one of the lightest available. Exceptionally robust at the same time, the unit is perfect both for the demanding everyday jobs at the workshop or use on site when flexibility and durability are essential. We do not know any unit that is tougher than ours. Nor can we hardly think of one that offers the same **unique performance range.** Our innovative Micor technology is what gives the MicorStick its superior welding characteristics and guarantees **a highly stable and forceful arc** even when the unit is operated with long cables of up to 200 m or on a generator. Offsetting any fluctuations in the mains voltage supply with ease, the MicorStick ensures reliable welding performance even if the mains power supply is unstable or weak and shows fluctuations within a range of –40 to +15 percent. Naturally, we incorporated **all essential welding features** you would expect from an outstanding system: Hotstart, Anti-Stick and Arc-Force regulation. Apart from these characteristics, the MicorStick utilises our **stability program KickArc.** This generates an arc frequency within the higher welding range which provides stability, reduces arc blow and gives **increased dynamics.** You will feel and hear the difference right away. After all, a turbocharged car will always sound different from any ordinary car.

More power by Micor Inside **also results in perfect suitability for highly demanding welding tasks with CEL electrode.** Ideal for those pipeline construction welders who often only have the 230 V mains power at their disposal during installation on site.

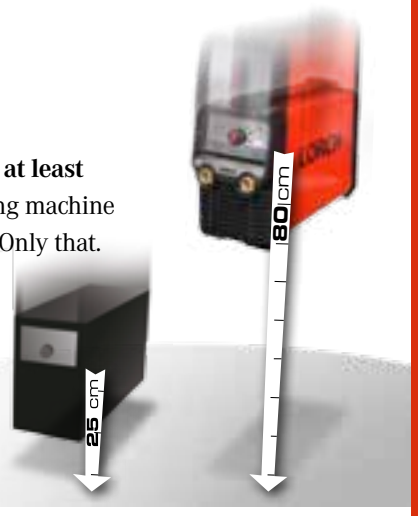
MicorStick units offer 100 % compatibility with the latest connection standard and can be operated without any restrictions on all public mains supplies. After all, we want you to be able to achieve welding perfection wherever and whenever you need it.

The MicorStick at a glance

- ✓ Extremely robust with a minimum weight of 4.9 kg
- ✓ Guaranteed protection against falls of up to 80 cm in height
- ✓ Innovative and patented MICOR technology delivers maximum power and exceptional welding characteristics
- ✓ Especially suitable for basic, rutile and special electrodes up to 4 mm
- ✓ Absolutely reliable vertical down-welding of cellulose electrodes (CEL)
- ✓ With Hotstart, Anti-Stick and Arc-Force regulation technology
- ✓ Includes Kick-Arc stabilisation program: added directional stability and increased dynamics in the upper current range during mains operation
- ✓ InsideCoating: optimum dust protection for a long service life
- ✓ "3 steps to weld" operating concept
- ✓ Full power even in case of voltage fluctuations and when using long cables (up to 200 m)
- ✓ Also available as an "Accu-ready" version for battery-supplied welding using Lorch's high-performance battery pack MobilePower 1.
- ✓ High efficiency and low energy consumption thanks to state-of-the-art Micor power electronics and automatic power savings mode
- ✓ Generator-compatible
- ✓ Overvoltage protection: no damage to the unit as a result of inadvertent connection to 400 V mains voltage
- ✓ Manufactured and tested according to DIN EN 60974-1, with CE mark, S-symbol and IP 23

Extremely robust.

The independent statistics state: **Every machine is dropped at least 4 times during its life time.** The standard requires: a welding machine must be able to withstand a fall of only 25 cm. Yes, honestly! Only that. But you can be sure that it is a great deal more than 25 cm if a machine should fall out of your hand or from the work-bench, this would usually leave the machine broken. That's simply a fact, unless of course it is red and comes from Lorch. We have fitted our MicorStick Series with special crash protection and the result is impressive: with a **guaranteed fall protection from a height of 80 cm.**



Norm MicorStick

Energy efficiency – plus power savings mode.

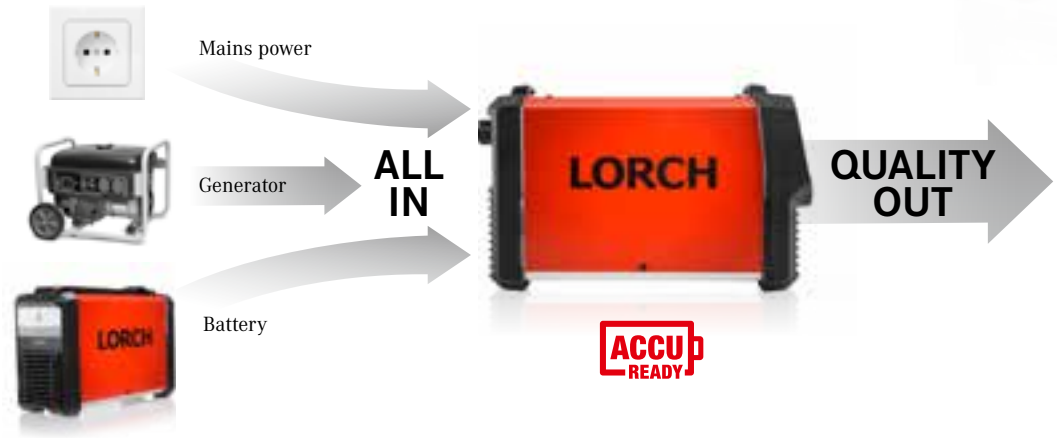
The MicorStick ships with Lorch's latest Micor inverter technology. Fully resonant and exploiting performance capacities to the full extent, the system guarantees perfect welding characteristics and exceptional efficiency that allows you to utilise valuable **energy in the most effective way.** But MicorStick does not stop there and optimises current consumption wherever possible. It will, for instance, detect when the welding unit is not in use and automatically switch the power supply unit to power savings mode and the operating panel to minimal load. A brief press on the start button is all it takes to restore your unit to ready-to-operate condition.

3 steps to achieve weld perfection

1. Switch on
2. Select process
3. Adjust welding current

Optimum flexibility. Also available as "Accu-ready"-version including "All-In" technology.

Welding while connected to a 230 V mains supply is a clear-cut option. Micor technology even allows you to be connected to **cables with a length of up to 200 m.** What is more, Micor technology will even out fluctuations during generator operation perfectly thanks to its vast voltage reserves. But that does not even begin to tell the story: MicorStick is also available as an "Accu-ready" version. **A real take-all-in if it comes to current.** It, thereby, provides you the maximum level of flexibility you need to perfectly adapt to the conditions you find on site. When available, you use the 230 V mains supply for your welding operations, if not, you will utilise the **power from the battery.** Better still, Lorch offers a matching battery in separate housing that you can add as a retrofit option at any time.



MicorStick & MobilePower

World innovation: battery-powered welding. Mobile welding enters a new dimension: mains independent, flexible, powerful.

Electrode welding has undergone a revolution once before. It dates back over 20 years and happened when small, **lightweight inverter systems** ventured out to break the dominance of welding transformers. Lorch was at the forefront of this development. The benefits of using inverters were blindingly obvious. Welding has never seen a similar level of mobility. Lorch expanded on this level of mobility and perfected it by developing the convenient assembly pack: A robust carrying case that stores the welding unit and all necessary accessories. **Everything you need. With you at all times.** But Lorch's engineers did not stop there. The result was Lorch's Handy series which took progress to the next level: offering a fall protection from a height of 80 cm. Unimaginable at that time back then and still today's standard when it comes to achieving perfection during mobile welding applications. But is this already the highest level of perfection? Is there not something else that a portable inverter electrode welding unit could offer? Where there is a will, there is a way. **Unlimited mobility** – that is the new standard. Welding without the need for a mains supply or generator. Weld anywhere no matter how remote your location is. Increase your welding productivity even further and eliminate the need to look for the next mains connection. **Power on the go.** Allow us to introduce: the next revolution in electrode welding. MicorStick with MobilePower 1 – battery-supplied welding technology made by Lorch.

Dream team for increased productivity. No more looking around for a mains connection or extension cables.

MicorStick plus MobilePower. This is the formula for short distances. The need to look around for a mains connection – eliminated. The need to carry along extension cords – eliminated. The need to walk back to the fuse box if a fuse trips – eliminated. MicorStick and MobilePower let you work independently of the mains situation present at your work site. Simply connect the MobilePower 1 battery pack to the MicorStick 160 **"Accu-ready"** welding unit. No more cumbersome preparations, just start welding right away. Exactly where you need to and where you want to. Perfectly suited for servicing large factory premises, especially in outdoor areas. An excellent choice for installation work on construction sites and in the area of forestry. Ideal for quick repairs on conveyor systems, construction equipment and agricultural machinery. **Oustanding welding performance exactly where you need it.**

MobilePower 1 – battery technology that fits practice

Weld up to 28 electrodes with a diameter of 2.5 mm on a single battery charge.

Battery-powered welding poses a significant technical challenge. Welding equipment requires a substantially greater amount of power compared to other electric tools. This is why we built in genuine high-performance batteries with lithium-ion technology which offer the same capacity as approx. 40 batteries commonly used in cordless electric screwdrivers. Instead of filling up a whole, large-size box as these batteries do, Lorch's battery pack comes in a small and compact size. More importantly, it supplies maximum power whenever it is needed. One battery charge allows you to weld up to 28 electrodes with a diameter of 2.5 mm or up to 12 electrodes with a diameter of 3.2 mm. This is usually often more than enough for a lot of welding applications.

Maximum electrode capacity per battery charge

Electrode diameter	Welding current	Electrode type RC11		Electrode type RR12	
		Length 250 mm	Length 350 mm	Length 250 mm	Length 350 mm
ø 2.5 mm	60 A	28	21	23	17
	90 A	23	17	21	15
	110 A	21	15	20	14
ø 3.2 mm	90 A	–	12	–	10
	120 A	–	10	–	9
	150 A	–	9	–	8

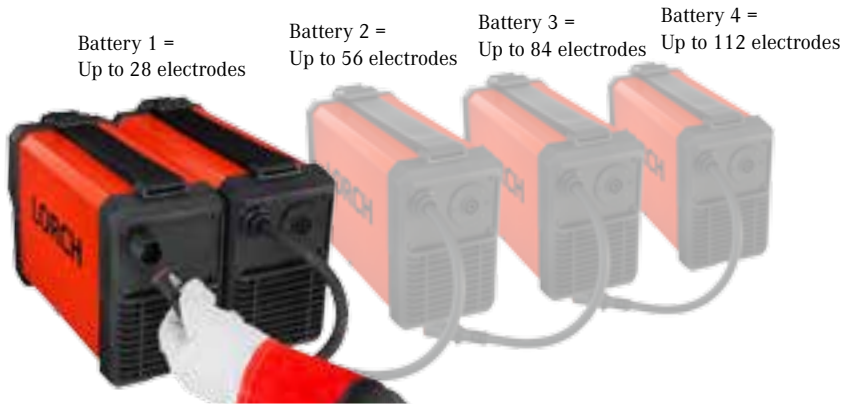
All specifications represent maximum values gathered from real weld testings. The actual range that can be achieved in a specific application varies with the manufacturer's brand of the electrode, the way the welder works and the environmental conditions.

An intelligent connection: One input for all options.

The “Accu-ready” version of the MicorStick truly is a real **take-all-in when it comes to current.** However, the different types of current are not created equal. The direct current supplied by the batteries of the MobilePower 1 requires a different type of regulation from the system control than the alternating current of the mains electrical grid. The included mains cable and the connecting cable of the battery are connected to the system via the same **newly developed plug-in connection system.** MicorStick “Accu-ready” will detect automatically if a MobilePower pack is connected or if the operator requires operation via mains power or generator. Micor technology will then be applied to optimise the internal power management and convert the current into the stable and forceful arc you require – with maximum efficiency.

Maximum power. Time and time again. Full flexibility thanks to changeable batteries.

Plenty and ample. This is what you may think when glancing at the performance data of the MobilePower 1: Enjoy 600 Wh of power reserve and weld **up to 28 electrodes** (Ø 2.5 mm). But that is not all. The most ingenious part about Lorch’s battery-supplied welding technology: the power reserve is **fully scalable thanks to extra battery packs.** Anyone requiring more than one battery charge during a particular application can carry this extra power with him. Simply pack a second MobilePower 1 battery pack and double your welding time. A third will triple your work time. A fourth one will quadruple it. And so on and so forth. Unplug the old one, **plug in the new one, and keep welding.** Since changing batteries is a breeze, you will remain highly productive.



Charge level indicator – everything at a glance.

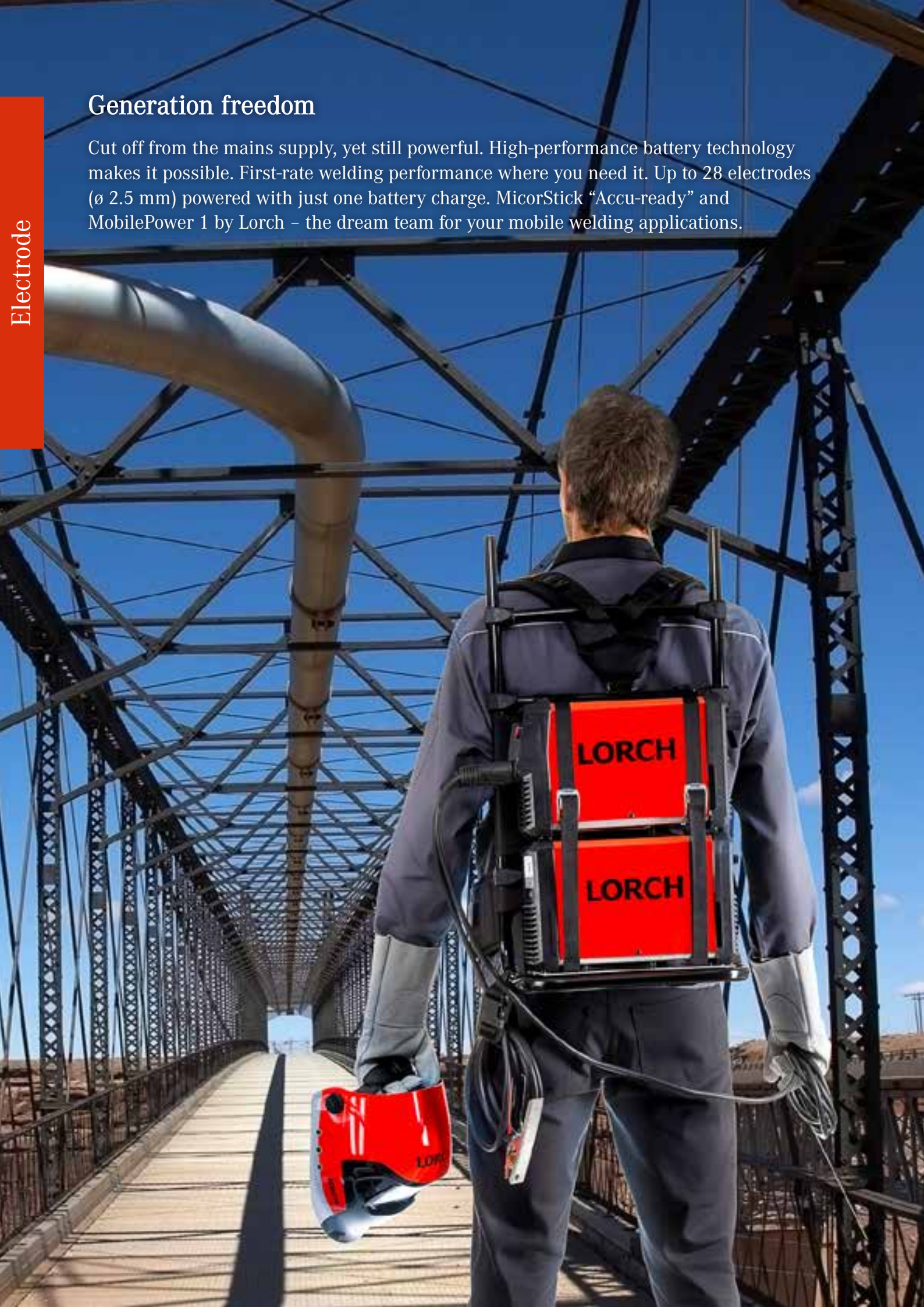
Intelligent battery management ensures that you can rely 100 % on your MobilePower 1 battery pack. You will always stay in **full control of your power reserves** thanks to the large and easy-to-read charge level indicator. Depending on the type of electrode you are using, one charge indicator bar will correspond to three or four electrodes with a diameter of 2.5 mm or 1.5 to two electrodes with a diameter of 3.2 mm. This will tell the welder how many seams he can still finish, when he needs to replace the battery or when he needs to reconnect the battery to the mains supply for recharging.

Everything is OK. In terms of battery power, this translates to maximum charge capacity and, consequently, maximum worktime.

When the last indicator switches to yellow, the remaining welding capacity will last for another 1 – 2 electrodes. Then you will know that your battery needs charging.

Generation freedom

Cut off from the mains supply, yet still powerful. High-performance battery technology makes it possible. First-rate welding performance where you need it. Up to 28 electrodes (ø 2.5 mm) powered with just one battery charge. MicorStick “Accu-ready” and MobilePower 1 by Lorch – the dream team for your mobile welding applications.



Perfect on the move for construction.

Both MicorStick and MobilePower can, of course, be carried separately with ease. This is because both come standard with a handy carrying strap. Another option is to use one of Lorch's clever transport and carrying solutions. Thinking ahead – for unlimited mobility.

Assembly Pack
for MicorStick.
Protective tool case also available separately for MobilePower.

Easy Go 1
Carrying handle for MicorStick and MobilePower

Easy Go 2
Carrying option for MicorStick and MobilePower.
on top of each other

Easy Go 3
Carrying option for MicorStick and MobilePower.
side by side

Weld Backpack
Comfortable backpack solution including waist and chest strap for MicorStick and MobilePower (including MobilePower on/off remote control)

The system options

	MicorStick 160	MicorStick 160 Accu-ready
Welding range		
Electrode	10 – 150 A	10 – 150 A
TIG with ContacTIG	15 – 160 A	15 – 160 A
Weldable electrodes		
Electrode Ø in mm	1.0 – 4.0	1.0 – 4.0
CEL Ø in mm	1.5 – 4.0	1.5 – 4.0
TIG Ø in mm	1.0 – 2.4	1.0 – 2.4
Standard duty cycle measured according to German quality standard DIN EN 60974-1 at 40 °C ambient temperature		
Current at 100 % duty cycle (40 °C)	110 A	110 A
Current at 60 % duty cycle (40 °C)	120 A	120 A
Duty cycle I max. (40 °C)	30 %	30 %
Machine		
Mains voltage	1~230 V	1~230 V
Permitted mains tolerance	+15 %/–40 %	+15 %/–40 %
Mains fuse, delayed action	16 A	16 A
Dimensions in mm (L x W x H)	340 x 131 x 215	340 x 131 x 215
Weight	4.9 kg	4.9 kg
Battery operation		
"Accu-ready" for use with MobilePower 1	–	●

○ optional

MobilePower 1	
Power	604.8 Wh
Service life	approx. 1.000 charging cycles
Dimensions mm (L x W x H)	323 x 131 x 215
Weight	7 kg
Charge time	150 min

MobilePower charger	
Input voltage	115 V/230 V
Input power	2.6 A/1.4 A
Output voltage	58 V
Output power	4.5 A

The Handy Series

Compact, robust, powerful.
Ideal for workshop and construction.

The Lorch Handy Series. A true light weight for your shoulders – but also a genuine **power house with regards to quality and welding characteristics.** The compactness makes moving in confined spaces really easy. And in the workshop? Here, it fits perfectly on the smallest of workbenches. The Handy is exactly designed for the practical requirements of daily welding use. It is based on **the most modern inverter technology** with adaptive regulation technology. This helps to reduce spatter formation, compensates for operator mistakes and permits spellbindingly simple operation ensuring **perfect weld results.** It also shows its qualities when used with a generator and when using long cables. Where many other "inferior" products already decline their service, the Handy strikes up reliably and remains incredibly stable.
Furthermore, the Lorch Handy series provides **outstanding, real-world duty cycles,** high power reserves and the possibility of TIG welding with ContacTIG ignition.
The Handy 180 even offers built-in gas management.

Employing MICOR technology, the Handy 200 contributes more to the perfection of electrode welding than anything else. The Handy 200 ControlPro even allows you to individually adjust the Hotstart and Arc-Force parameter settings. What is more, a weld seam end detector ensures a targeted arc break at the end of the seam and can be enabled for the ControlPro model. Also available as an RC variant including remove control connection.

The Handy Series at a glance

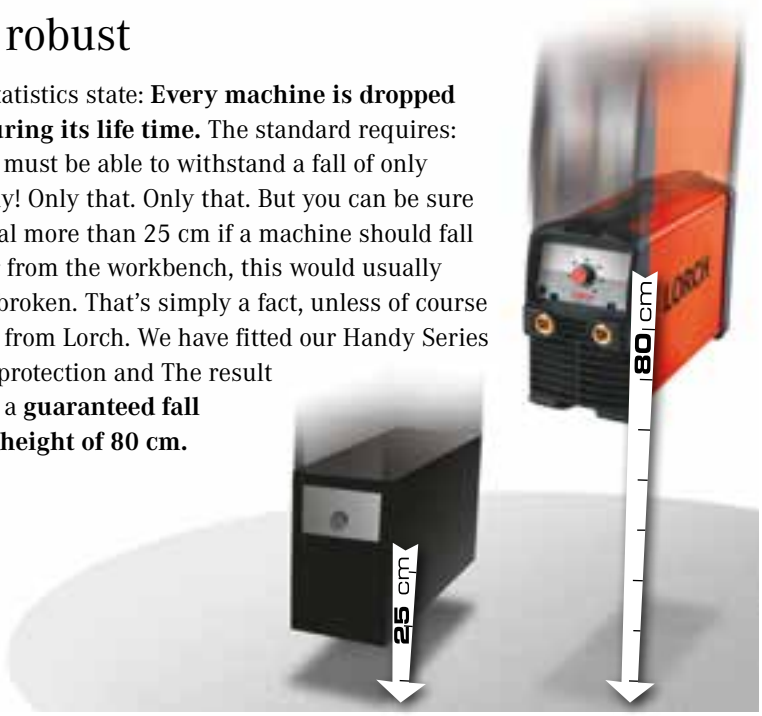
- ✓ Extremely robust with minimal weight
- ✓ Guaranteed protection against falls of up to 80 cm in height
- ✓ Outstanding welding characteristics thanks to state-of-the-art inverter technology
- ✓ Especially suitable for basic, rutile and special electrodes
- ✓ With Hotstart, Anti-Stick and Arc-Force regulation technology
- ✓ InsideCoating: optimum dust protection for a long service life
- ✓ Full power even in the case of voltage fluctuations and when using long cables
- ✓ Generator-compatible
- ✓ Highly efficient and low energy consumption due to the most modern power electronics and the fan on demand function
- ✓ "3 steps to weld" – operating concept
- ✓ Manufactured and tested according to DIN EN 60974-1, with CE mark, S-symbol and IP 23

In addition for Handy 200:

- ✓ The innovative and patented MICOR technology provides maximum power and perfect welding characteristics at a weight of only 5.8 kg – unique in this class
- ✓ For perfect electrode welding up to 5 mm Ø
- ✓ Absolutely unbelievable vertical down-welding of cellulose electrodes (CEL)up to 3.2 mm Ø
- ✓ Also remote control connection variant is available
- ✓ Available with BasicPlus or ControlPro operating concept

Extremely robust

The independent statistics state: **Every machine is dropped at least 4 times during its life time.** The standard requires: a welding machine must be able to withstand a fall of only 25 cm. Yes, honestly! Only that. Only that. But you can be sure that it is a great deal more than 25 cm if a machine should fall out of your hand or from the workbench, this would usually leave the machine broken. That's simply a fact, unless of course it is red and comes from Lorch. We have fitted our Handy Series with special crash protection and The result is impressive. with a **guaranteed fall protection from a height of 80 cm.**



Standard Handy Series

3 steps to achieve weld perfection

1. Switch on
2. Select process/electrode type
3. Adjust welding current

Perfect electrode welding

The microprocessor regulation ensures particularly good weld characteristics of the Handy Series.
Simply switch on and start welding. You will instantly experience impressive work results. We create the technical requirements in the background for optimum arc regulation with a completely digital signal controller:

- The automatic **Hotstart** provides absolutely perfect ignition characteristics.
- The **Anti-Stick System** prevents the electrode from sticking.
- The **Arc-Force regulation** supports the welding process with an increased arc stability and optimised metal transfer.

The base: **adaptive regulation technology** with the knowledge of the best welders in the world. Because the finer and more controlled the droplet transfer, the better your welding result.

LORCH MICOR INSIDE

Handy

Quality
Made in Germany

Because quality is often on the move

You would always like to have a system that welds so well, on hand and with you. We have done everything so that this mobility is easy for you: minimum weight, compact dimensions, and outstanding fall protection. Furthermore the practical protective tool case, which ensures you always have everything with you. Everything's included, everything's there.

Perfect on the move for construction

Practical protective tool case:
Our protective tool case ensures you always have everything with you. The seven items for perfect welding are easy to handle, easily transportable and well secured in this case – including the protective welding hand shield.

Contents of the electrode assembly pack:
3 m electrode and ground cable, chipping hammer, wire brush, welding shield EN 166, welding glasses, in a robust protective tool case.

Contents of TIG and electrode assembly pack:
3 m electrode and ground cable, chipping hammer, wire brush, welding shield EN 166, welding glasses, appropriate TIG torch, tungsten electrode, pressure reducer with quantity and content manometer, in a robust protective tool case.

The power variants

3 Years INDUSTRIAL WARRANTY LORCH

Handy 160
160 A

Handy 180
180 A

Handy 200
200 A
LORCH MicorInside

Handy 200
200 A
LORCH MicorInside

smallest and lightest CEL-capable 200A inverter in its class

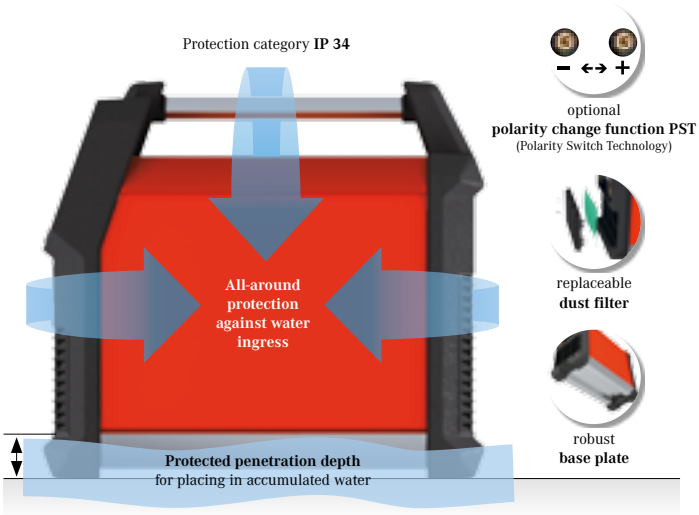
Welding range	**Handy 160**	**Handy 180**	**Handy 200** Basic Plus	**Handy 200** Control Pro
Electrode	5 – 150 A	5 – 150 A	10 – 200 A	10 – 200 A
TIG with ContacTIG	5 – 160 A	5 – 180 A	10 – 200 A	10 – 200 A
Weldable electrodes				
Electrode Ø in mm	1.5 – 4.0	1.5 – 4.0	1.5 – 5.0	1.5 – 5.0
CEL Ø in mm	– –	– –	1.5 – 3.2	1.5 – 3.2
TIG Ø in mm	1.0 – 2.4	1.0 – 2.4	1.0 – 3.2	1.0 – 3.2
Standard duty cycle for MMA – electrode measured according to German quality standard DIN EN 60974-1				
Current at 100 % duty cycle (40 °C)	115 A	115 A	130 A	130 A
Current at 60 % duty cycle (40 °C)	135 A	135 A	150 A	150 A
Duty cycle I max. (40 °C)	40 %	40 %	30 %	30 %
Machine				
Mains voltage	1~230 V	1~230 V	3~400 V	3~400 V
Permitted mains tolerance	+15 %/–25 %	+15 %/–25 %	+15 %/–25 %	+15 %/–25 %
Mains fuse, delayed action	16 A	16 A	16 A	16 A
Dimensions in mm (L x W x H)	337 x 130 x 211	337 x 130 x 211	337 x 130 x 211	337 x 130 x 211
Weight	5.3 kg	5.7 kg	5.8 kg	5.8 kg
Equipment versions				
Electrode assembly pack	●	●	●	●
TIG and electrode assembly pack	●	●	●	●
Remote control connection	– –	– –	as RC version	as RC version
Operating concepts				
BasicPlus	– –	●	●	– –
ControlPro (with 7-segment display)	●	– –	– –	●

The X Series.

Built for extreme use, extra powerful for large electrodes, and, thanks to MICOR®, excellent for CEL.

The conditions under which electrode welders work are usually quite demanding, but sometimes, the field of application is just as extreme. Rain, wind, mud, dust and dirt. Conditions under which some machines are simply not able to cope. And what then? New machine purchasing and many repairs are necessary. This is how welding on-site was. The X Series has been created exactly for this field of application. Because when it comes to the crunch, time is money. For this reason, the X is equipped with everything you might need for operation outside of the warm workshop: compact dimensions, crash-proof up to 60 cm, **all around protection against water splashes,** excellent shielding against dust and foreign particle infiltration. In addition a **special base construction,** enabling a sufficient ground clearance as well as a stable platform. The robust base plate is made from stainless steel and ensures a long life cycle, and also indicates the maximum allowable penetration depth in to water clearly. You have read correctly, it is really no problem to place the X series in water up to the height of the stainless steel base without damaging the electronics. The unit is tested for operation under extreme conditions. After all, when you use the X, we do not know whether you are using it in the Arctic or in the Sahara or anywhere in-between!

In addition to all of its “off-road” qualities – of course, the X is capable of welding too and you can be assured that it performs this task absolutely perfectly. Inside, the innovative and patented Lorch MICOR technology operates inside and ensures a **fantastically stable arc**. These quality features are also shown when powered by a generator or in the case of high voltage fluctuation and even when used with cables up to 200 m long! Whilst other units will of already given up their service, the X ignites perfectly and with complete stability.



The X Series at a glance

- ✓ Maximum performance and perfect welding characteristics due to MICOR® technology
- ✓ For perfect electrode welding up to 8 mm Ø
- ✓ Stable arc also in case of voltage fluctuation and when using cables of up to 200 m in length
- ✓ Especially suitable for basic, rutile and special electrodes
- ✓ Absolutely unbelievable vertical down-welding of cellulose electrodes (CEL)up to 3.2 mm Ø
- ✓ Including MICOR-Up function for perfect manual metal arc vertical seam welding (in the ControlPro)
- ✓ Electrode welding with Hotstart, pulse function (ControlPro), Anti-Stick and Arc-Force regulation technology
- ✓ Gouging
- ✓ DC-TIG with ContacTIG
- ✓ “3 steps to weld” operating concept
- ✓ Fall protection from up to 60 cm height
- ✓ InsideCoating: optimum dust protection
- ✓ Extremely robust housing, protected all-around against water ingress (IP 34)
- ✓ Outstanding low weight (from 18.5 kg)
- ✓ Connection for hand or foot remote control
- ✓ Optional: stable hand remote control with or without magnetic holder
- ✓ Optional: polarity change function
- ✓ Generator-compatible
- ✓ Can also be used with semi-automatic MIG-MAG wire feeders
- ✓ Manufactured and tested according to DIN EN 60974-1, with CE mark, S-symbol and IP 34

MicorUp simple and fast manual metal arc vertical seam welding.

Lorch's revolutionary MICOR® technology not only makes the X series insensitive to voltage fluctuations but also adds a world's first with MicorUP, a technology used in the X 350 ControlPro that provides: The triangle method is no longer necessary. The welder simply guides the electrode directly upwards. Even with basic electrodes, excellent results can be achieved. The reason for this progress: MICOR® technology. Although with normal inverters in the low amperage range the arc can quickly collapse, thanks to patented control engineering the MICOR technology always provides sufficient power to keep the arc ignited and stable. And although until now manual metal arc vertical welding has normally been done in two passes, the root with a small electrode and the capping layer with a large electrode, with the MicorUp process a single run with the large electrode are usually sufficient.

MicorUp
Manual metal
arc vertical seam

3 steps to achieve weld perfection

1. Select electrode type
2. Select operating mode
3. Adjust welding current

Extremely robust.

The statistics state: **Every machine is dropped at least 4 times during its life time** and this is under normal operating conditions. Yes, honestly! Only that. Especially **in extreme use, the danger increases** and also the probability of a drop. The norm requires that a unit can survive a free fall of just 25 cm. Yes honestly! Only that! But it is definitely much higher than that if a machine falls out of the back of the van or from your hand while carrying is and then the machine is usually broken. This, however, is not the case with us, we have designed a special crash protection for the X. The result is impressive: with a **fall protection from up to 60 cm height.**

Standard X 350

This is where the X feels truly at home.

The X is used wherever demanding welding jobs need to be performed on a daily basis. More often than not, these jobs must be performed in the harshest conditions and rough terrain. These areas are where the X proves its off-road qualities and full capacity – every day.


LORCH

Maximum performance due to MICOR® technology

The X Series with unique and patented MICOR technology from Lorch welds electrodes up to 8 mm effortlessly. Irrespective of whether basic, rutile or special electrodes – and also CEL if you need it.

Easy handling guaranteed – the operating concepts of the X series

BasicPlus

- ✓ “3 steps to weld” operating concept
- ✓ 7-segment display, exact to the amp
- ✓ Advance selection of electrode for optimum results
- ✓ Hotstart can be set in submenu
- ✓ Can switch to TIG function
- ✓ Can be used with semi-automatic MIG-MAG wire feed cases by means of CV curve

ControlPro

- ✓ ”3 steps to weld” operating concept
- ✓ 7-segment display, exact to the amp
- ✓ Advance selection of electrode for optimum results
- ✓ Hotstart on/off (can be set in submenu)
- ✓ Can switch to TIG function
- ✓ can be used with semi-automatic MIG-MAG wire feed cases (CC and CV curve)
- ✓ With MicorUp function for optimum electrode vertical seam welding
- ✓ As PST variant, also with polarity reversal function
- ✓ Pulsing function can be activated

The power variants

Manual remote control HR 33 PST

Wireless contact remote controller KR 10 of the X series.

X 350
350 A

X 350 PST
350 A

Welding range	**X 350**	**X 350 PST**
Electrode	10 – 350 A	10 – 350 A
Weldable electrodes		
Electrode Ø in mm	1.6 – 8.0	1.6 – 8.0
CEL Ø in mm	up to 6.0	up to 6.0
Standard duty cycle for MMA – electrode measured according to German quality standard DIN EN 60974-1		
Current at 100 % duty cycle (40 °C)	230 A	230 A
Current at 60 % duty cycle (40 °C)	280 A	280 A
Duty cycle I max. (40 °C)	35 %	35 %
Machine		
Mains voltage	3~400 V	3~400 V
Permitted mains tolerance	+25 %/–40 %	+25 %/–40 %
Mains fuse, delayed action	25 A	25 A
Dimensions in mm (L x W x H)	515 x 185 x 385	515 x 185 x 385
Weight	18.5 kg	19.8 kg
Polarity change function (PST)	– –	●
Operating concepts		
BasicPlus	●	– –
ControlPro	●	●

An ingenious princip

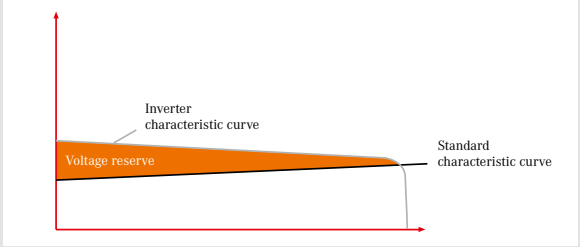
As precise as clockwork – power rese

Previously, it was a fact that small and compact inverters did not weld CEL electrodes because they lacked the necessary voltage reserves. High time to change one's views: Thanks to the MICOR inverter technology from Lorch, the time for over-dimensioned transformers is coming to an end.

The patented MICOR technology contributes to an almost perfect weld curve and acts like a turbocharger on a car engine: maximum power is invoked from the smallest of spaces. Even in extremely compact systems like the Lorch Handy 200 and the new X Series, greater additional performance is achieved. As soon as the current is reduced due to external disruptions, significantly higher voltage reserves are then activated. The result is perfect electrode welding – including for CEL and other special electrodes.
A role model for the breakthrough is the mechanical watch mechanism which moves evenly, irrespective of position due to harmonic oscillation. As in the balance spring in a mechanical watch, the energy oscillates constantly between rotary movement and spring tension, the welding transformer and the resonance capacitors in the MICOR inverter form a harmonic, electrical oscillating circuit. This flywheel is initiated with the correct power at the right time. Instead of forcing the cycle with material-critical switching on and off, the constantly oscillating circuits act smoothly. The regulation, however, does not limit the current, but is actually oriented to the output. The enormous power reserve of a MICOR inverter is regulated extremely quickly thereby so that it has voltage reserves available as and when it needs them for the welding process. The result is an intensively burning and permanently stable arc.
Using MICOR, the current also proves itself insensitive to external disruptions and when welding on very long cables, even up to 200 m is possible. MICOR for electrode welding means: less is more – that applies to weight and size of the equipment, the current consumption and the price. The only thing that is not cut back is plenty of power.

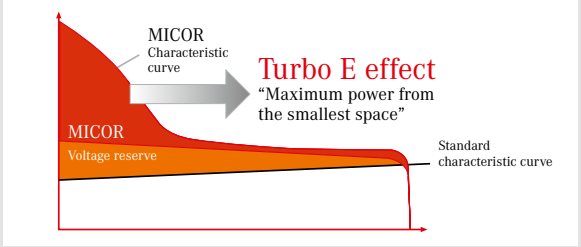
MICOR Turbo Effect. This is how you make the most of your electrode.

Conventional inverter technology:



Voltage and power reserves are small for conventional inverters. The welding process can become quickly unstable.

MICOR Inverter Technology:

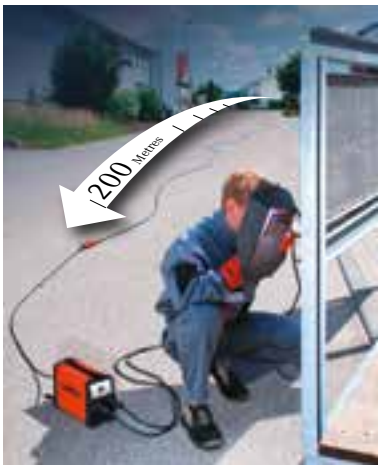


Particularly for the critical, low current intensities, MICOR inverters build up a high voltage and ensure maximum stability.

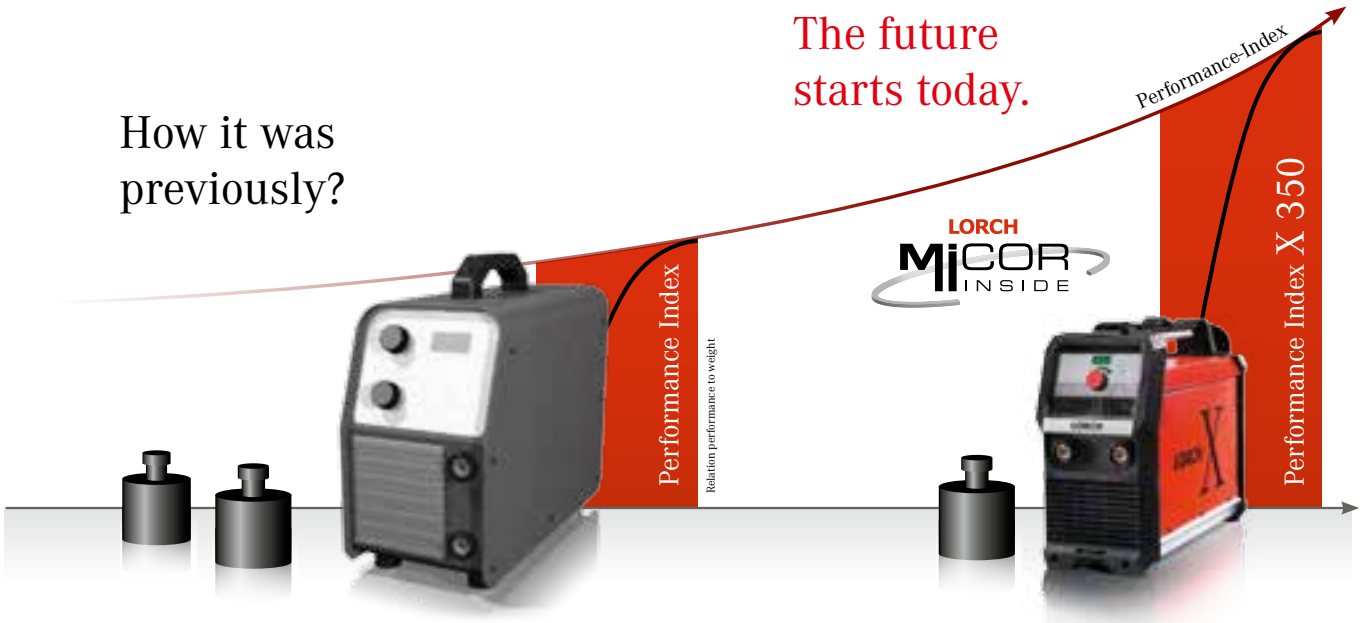
le – MICOR® Inside
rves like a turbocharger.

Long-distance champion. For cables with a length of up to 200 m.

Electrode welders are considered as the nomads among the welders – mobility in operation is the order of the day. There are often large distances, usually also outdoors, between the working locations. The welding machine should adequately cope with this requirement. The motto is quite clear: weight down, performance up. Or, how many marathon runners are there who voluntarily enter the competition with unnecessary additional weight? Instead of using previously heavy electrode systems with 400 A or more, you approach peak fitness with MICOR welding systems such as the MicorStick 160, the Handy 200 or the X 350. And that for a fraction of the weight with maximum performance and outstanding arc characteristics at the same time. Weighing a mere 5.8 kilograms, the Handy 200 is not only the lightest CEL-capable 200 A inverter in its class, it also uses MICOR technology to expand the radius of the welder by up to 200 metres while guaranteeing perfectly reliable ignition even when operating on long mains cables or hooked up to a generator – without affecting weld quality. This efficient combination of compact design and maximum performance is made possible by MICOR technology.



MICOR makes it possible.
Size down. Weight down. Performance up.



Before – without MICOR:
400 A was necessary
and for about 30 kg

Today – with MICOR:
350 A is more than enough
and with only 18.5 kg

The Lorch MIG-MAG range

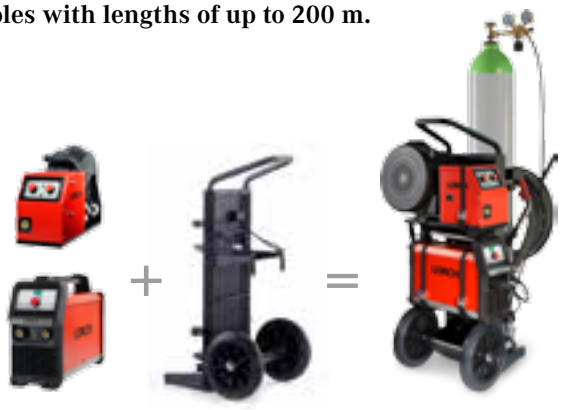
MIG-MAG

Quality
Made in Germany

The MX 350

M as in MIG-MAG-mobile and multi-process.
X as in extra strong thanks to MICOR technology.

Are you among the professionals who have always wanted a mobile MIG-MAG solution that is more capable than others? After all, every job site and each welding task has its own unique challenge. The more versatile and efficient you are when approaching this task, the better you will perform. MIG-MAG is often the process of choice. But, what if factors such as wind conditions or the welding task at hand do not allow you to use MIG-MAG applications? And, what if the desired process is TIG or electrode welding? The answer you are looking for is the Lorch MX 350. When combined with the separate wire feeder, this product is an **excellent MIG-MAG welding system** suitable for use on the go. This system makes it a cinch to weld wire diameters of up to 1.2 mm. Its **MIG-MAG synergic mode** makes controlling the unit straightforward and easy. All you need to do is tell the power source the diameter of the wire you wish to weld, and the system will set the optimum parameters for steel and stainless steel. This ensures that you will perform MIG-MAG welding flawlessly metre by metre. You will be able to do so both on the go and in-house. The unit supports **300 wire reel size** and **provides industrial-strength duty cycle** making it perfectly suitable for permanent use in the workshop and at the production plant. But, that is not all. The MX 350 is a genuine **multi-process unit.** As it can also be used for such additional welding processes as **TIG, electrode and CEL welding,** the system offers you the flexibility you need for mobile applications and at the construction site. This is made possible by its patented **MICOR inverter technology.** This technology gives the innards of the MX 350 the necessary power reserves and guarantees – just as with the turbo principle in a car engine – maximum power generation from a small compact unit. The added power is for the benefit of arc stability and makes the MX 350 able to cope with any voltage fluctuations. The MX 350 can also be operated in combination with **generator or connecting cables with lengths of up to 200 m.**



Wire feeder case, custom fit above the MX350.

Maxi-Trolley XL. The ultimate transport trolley.

The MX350 at a glance

- ✓ Welding unit for mobile applications in combination with the separate MIG-MAG wire feeder case
- ✓ Innovative and patented MICOR® technology delivers maximum power and exceptional welding characteristics
- ✓ Outstanding MIG-MAG welding characteristics for mixed gas and CO_2
- ✓ MIG-MAG synergic mode can be activated separately
- ✓ Synergic characteristic curves for steel/stainless steel (0.8 mm; 1.0 mm; 1.2 mm wire). Aluminium by adjusting the wire feed correction accordingly
- ✓ Crater filling for a perfect weld seam finish
- ✓ DC-TIG feature with ContacTIG ignition (no HF)
- ✓ Electrode welding with Hotstart, Anti-Stick and Arc-Force regulation technology for electrodes with diameters of up to 8 mm and absolutely reliable vertical down-welding of cellulose electrodes (CEL)
- ✓ "3 steps to weld" operating concept
- ✓ Stable arc also in case of voltage fluctuation and when using cables of up to 200m in length
- ✓ Also suitable for gouging
- ✓ Extremely robust housing, protected all-around against water ingress (IP 34)
- ✓ fall protection from up to 60 cm height
- ✓ InsideCoating: optimum dust protection
- ✓ Low weight of the power source (18.6 kg)
- ✓ Generator-compatible
- ✓ Can also be used with semi-automatic MIG-MAG wire feeders
- ✓ Manufactured and tested according to DIN EN 60974-1, with CE mark, S-symbol and IP 34

MX 350

Mobility made easy

Daily routine at the construction site: Hard installation work, inspections looming, all trades are rushing to finish the job. Costly rework or delays are out of the question. This is the type of situation where you need a mobile welding system on which you can fully rely. Not a chanllange at all if you have the MX 350. Naturally, having such a versatile and well-performing unit in a handy format is a big plus. Of course, it will not fit in your trouser pocket, but we certainly designed it such that it will be easy for you to move around with it. The MX 350 sets itself apart by the **lowest weight** and most compact dimensions you will find in this performance class. When you carry the unit, you will find that the separate wire feeder case provides **comfortable weight distribution** by offsetting the weight of the unit, thereby preventing excess stress on one side. Furthermore it allows you to leave the power source behind and take only the case with you, for instance, by monitoring on the scaffolding. Your power source can certainly take a beating during your everyday work thanks to its **exceptional protection against falls** from a height of up to 60 cm and, in particular, its all-around **splash-proof housing** (protection class IP34). All in all, nothing will stand in your way – regardless of the terrain you are dealing with on your next professional mission in the field.

LORCH MiCOR INSIDE

3 steps to achieve weld perfection

1. Select process/characteristic curve (e.g. MIG-MAG synergic)
2. Operating mode: 2-stroke, 4-stroke, crater filling on/off
3. Fine adjustment wire feed

MIG-MAG optimised for mixed gas and CO_2 plus synergic and multi-process: TIG, electrode, CEL

Easy operation is one of the particular strengths of the MX 350. It lets you easily select the welding process. You can switch between **MIG-MAG with mixed gas or CO_2, TIG and electrode welding** with the press of a button.

The unit also allows you to enable MIG-MAG synergic mode directly making the parameter setting much easier: Simply select the characteristic curves, and the system will automatically adjust the wire feed speed to each voltage setting. Finally, inverter technology makes it possible to achieve end crater filling – to give a fine finish to your weld seam.

Quality
Made in Germany

The one to do it all

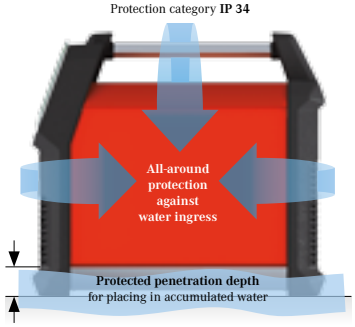
When combined with the separate wire feeder case, the MX is an excellent MIG-MAG welding machine suitable for use on the go. It is also a genuine multi-process system as it can handle TIG, electrode and CEL welding applications. While reducing the number of systems you will need to take with you to just one, this product gives you the flexibility to handle all the welding tasks you need to complete.

MIG-MAG feeder simple, convenient and robust.

When performing installations in the field, you will need a feeder that is, above all: convenient and robust. All components that carry an important control function are housed safely inside the power source. Everything inside the feeder is designed such that you can handle any task ranging from sheet metal welding to medium and heavy steel work. And, to ensure that you stay “wired” while performing your welding job, your feeder is designed for the **use of K 300 wire reels.** The operating panel is straightforward and clearly arranged and is ideal both for manual operation and the synergic mode of the MX 350. When using the latter, you can set such basic parameters as the characteristic curve, the operating mode, crater filling, etc. directly at the power source. You can adjust the voltage setting either at the system or the feeder. To fine-tune the wire feed, you always use the operating panel on the front of the feeder.

MIG-MAG feeder case MF-07	
Feeder speed	2.0 – 15.0 m/min
Drive/feeder	4-roll/tacho-regulated motor/digital speed feedback
Interpass hose package lengths (m)	5/10/15
Dimensions	480 x 200 x 270
Weight (net)	10.0 kg
Gas test	●

The power variants



Welding range	**MX 350**
MIG-MAG	10 – 350 A
TIG	10 – 350 A
Electrode	10 – 350 A
Welding wires	
Steel Ø in mm	0.8 – 1.2
Alu Ø in mm	1.0 – 1.2
CuSi Ø in mm	0.8 – 1.2
Standard duty cycle measured according to German quality standard DIN EN 60974-1 at 40 °C ambient temperature	
Current at 100 % duty cycle	230 A
Current at 60 % duty cycle	280 A
Duty cycle I max.	35 %
Machine	
Mains voltage	3~400 V
Permitted mains tolerance	+25 %/–40 %
Mains fuse, delayed action	25 A
Dimensions in mm	515 x 185 x 385
Weight	18.6 kg

The M-Pro Series

MIG-MAG perfection for every workshop. For mixed gas and also for CO_2.

The Lorch M-Pro shows itself as a true all-rounder for sheet metal and for medium to heavy steel work. The **high quality system** is impressive offering the best weld characteristics, a robust case, outstanding operator ergonomics and the practically oriented “3 steps and weld” operating concept. The modern automatic setting control of the system provides **pure synergy** and makes the operation easier than ever before. Only adjust the characteristics for the material/wire/gas combination used – you control everything else purely via the material thickness you want to weld. The **best welding parameters** are present immediately and the wire feeder is also automatically adjusted to the selected voltage level. Quality within the M-Pro can also be seen in the smallest details. Enjoy the performance of a high quality main transformer with an optimally matched welding choke, the large stable wheels, or the handles capable of supporting the entire weight (when acting as lifting points). With the well thought out power variants and up to **3 intelligent operating concepts,** it is possible to find a M-Pro which is ideally suited to your individual welding requirements.

Practical storage surface on the machine and ergonomic, illuminated wire feeder compartment

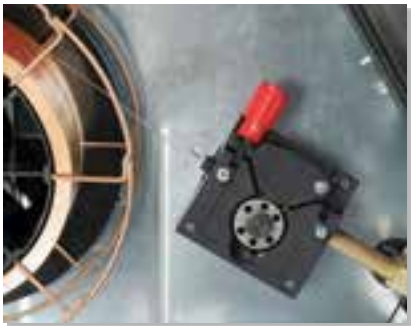
Cylinder trolley for up to 50 litre gas cylinders with double chain locks and a low loading edge

The M-Pro series at a glance

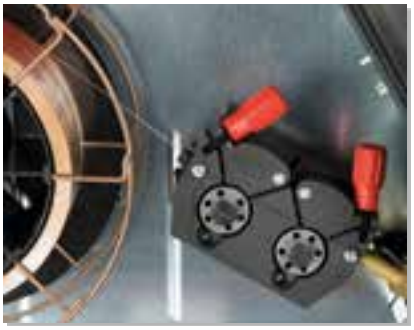
- ✓ Impressive welding characteristics for steel, aluminium and stainless steel
- ✓ Electronic MIG-MAG logic with 2-/4-step function and adjustable spot and interval control
- ✓ “3 steps to weld” operating concept with synergic automatic setting control (manual mode can also be selected)
- ✓ 3 operating alternatives: BasicPlus, ControlPro and Performance
- ✓ High operator ergonomics due to, amongst other things, the inclined operating panel
- ✓ Robust, completely transportable housing with large, stable wheels
- ✓ Manufactured and tested according to DIN EN 60974-1, with CE mark, S-symbol and IP 23
- ✓ Quality wire feeder with 2 or 4 rollers
- ✓ Tension-free wire insertion at the press of a button (operating button in the wire feeder case)
- ✓ Inclined torch connection for minimal wire resistance and optimum wire guidance
- ✓ Cylinder trolley for up to 50 litre cylinders with low loading edge and double chain cylinder lock
- ✓ High efficiency and low energy consumption due to the most modern industrial electronics and fan on demand function
- ✓ Also available: CuSi variants for perfect MIG brazing and MIG-MAG welding (welding current starts as low as a mere 15 amps for metal thicknesses starting at 0.5 mm)

Wire feeder with precision
Well thought out in every detail

Only a genuine precision feeder guarantees fine pressure adjustment, minimal wire deformation and exact wire alignment. This is made possible by the high quality **2-roll or 4-roll feeder** from Lorch. The wire feeder is inclined for absolutely minimal wire resistance. The wire feeding is performed easily and tension-free by pressing a button. The operating button is located exactly where it is needed – at the wire feeder inside the machine.



2-roll wire feeder



4-roll wire feeder

3 steps to achieve weld perfection

1. Set weld program (synergic pre-selection)
2. Adjust voltage level
3. Wire fine correction

Synergie pur: Automatic setting control for optimum welding parameters

- Select the desired material/wire/gas combination from the synergic line-program table.
- Set the number corresponding to the welding program using the selector switch in the wire feeder housing. For the Performance versions the selection is made via the OLED display.

Synergic pre-selection in the BasicPlus and ControlPro models

Synergic pre-selection in the Performance models

Quality
Made in Germany

The M-Pro brings MIG-MAG perfection into your workshop

The M-Pro has what others don't have: an inclined torch connection for optimum wire guidance and furthermore pure synergy. You only have to specify the material/wire/gas combination. The automatic setting control of the M-Pro handles the rest. You simply control everything else using the material thickness – ingenious in this class.

3 Years INDUSTRIAL WARRANTY LORCH

Easy handling guaranteed – the operating concepts of the M-Pro

BasicPlus

- ✓ Automatic setting control
- ✓ 2-roll wire feeder
- ✓ User-oriented guidance using illuminated symbols

ControlPro

- ✓ Automatic setting control
- ✓ 4-roll wire feeder
- ✓ Volt and ampere display
- ✓ User-oriented guidance using illuminated symbols

Performance

- ✓ Automatic setting control
- ✓ 4-roll wire feeder
- ✓ Volt and ampere display
- ✓ Digastep electronics with 21 voltage levels
- ✓ Graphical display (OLED)
- ✓ Tiptronic job memory
- ✓ Powermaster torch remote control

The power variants

MIG-MAG welding

M-Pro 170
170 A
Thin sheet metal

M-Pro 210
210 A
Thin sheet metal profile work

M-Pro 250
250 A
Thin sheet metal light weight steel work

M-Pro 300
300 A
All-round Steel work

MIG brazing
MIG-MAG welding

M-Pro 150CuSi
150 A
Perfect MIG brazing

M-Pro 200CuSi
200 A
The automotive workshop dream

Welding range	**M-Pro 170**	**M-Pro 210**	**M-Pro 250**	**M-Pro 300**	**M-Pro 150 CuSi**	**M-Pro 200 CuSi**
MIG-MAG	25 – 170 A	25 – 210 A	30 – 250 A	30 – 300 A	15 – 150 A	15 – 200 A
Voltage levels	6	12	12/21*	12/21*	7	12/21*
Welding gases	Mixed gas	Gas mixture + CO_2**	Gas mixture + CO_2	Gas mixture + CO_2	Mixed gas	Mixed gas
Welding wires						
Steel Ø in mm	0.6 – 0.8	0.6 – 1.0	0.6 – 1.0	0.6 – 1.2	0.6 – 0.8	0.6 – 1.0
Alu Ø in mm	1.0	1.0 – 1.2	1.0 – 1.2	1.0 – 1.2	0.8 – 1.0	0.8 – 1.2
CuSi Ø in mm	– –	– –	– –	– –	0.8 – 1.0	0.8 – 1.0
Practical duty cycle at 25 °C ambient temperature						
Current at 100% duty cycle	90 A	90 A	185 A	205 A	120 A	125 A
Current at 60% duty cycle	110 A	110 A	205 A	235 A	145 A	160 A
Duty cycle I max.	25%	25%	35%	35%	60%	30%
Standard duty cycle measured according to German quality standard DIN EN 60974-1 at 40 °C ambient temperature						
Current at 100% duty cycle	70 A	75 A	150 A	170 A	100 A	100 A
Current at 60% duty cycle	85 A	90 A	185 A	205 A	120 A	130 A
Duty cycle I max.	15%	15%	25%	25%	40%	20%
Machine						
Mains voltage	1~230 V/2~400 V	1~230 V/2~400 V	3~400 V	3~400 V	3~400 V	3~400 V
Mains fuse, delayed action	16 A	16 A	16 A	16 A	16 A	16 A
Dimensions in mm (L x W x H)	880 x 400 x 755	880 x 400 x 755	880 x 400 x 755	880 x 400 x 755	880 x 400 x 755	880 x 400 x 755
Weight	65 kg	69 kg	71 kg	80 kg	66 kg	68 kg
Operating concepts						
BasicPlus	●	●	●	●	●	– –
ControlPro	– –	●	●	●	●	●
Performance	– –	– –	●	●	– –	●

* in combination with Performance operating concept ** M-Pro 210 available as pure mixed gas and as combination variant for mixed gas + CO_2

The M-Pro Series available with separate feeder case

For more flexibility and range. That's MIG-MAG perfection for every workshop.

New: The large machines of the M-Pro Series with 250 A and 300 A in the ControlPro version are now also **available with a swivelling and detachable wire feeder case** and different length hose packages. This gives you more freedom for work on a large work piece's or in confined conditions. This variant comes with the 4-roll quality feeder, volt and ampere display and the ingeniously robust cylinder trolley. With its low gas cylinder mounting, it makes changing the cylinder easier and is also suitable for large 50 litre cylinders.

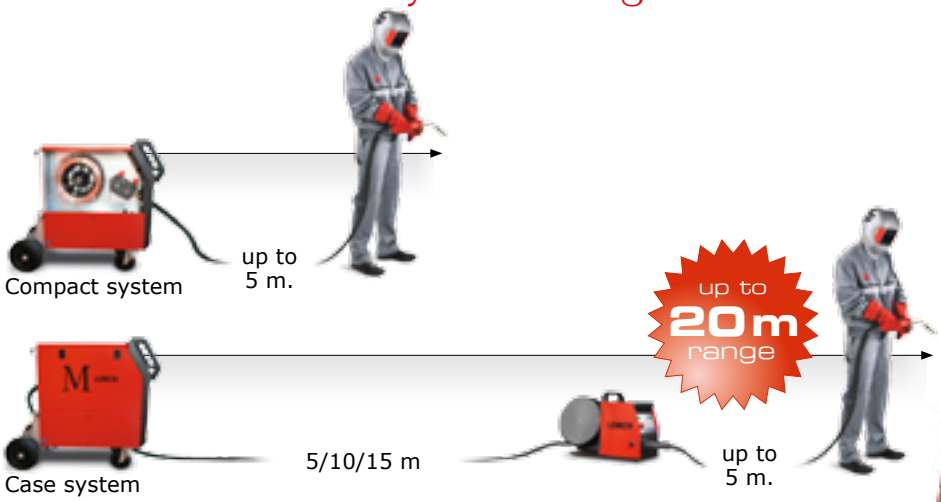
The M-Pro with case at a glance

- ✓ Available for all systems with 250 and 300 amperes
- ✓ Impressive welding characteristics for steel, aluminium and stainless steel
- ✓ Case variant with 5, 10 or 15 m interpass hose package
- ✓ Up to 20 m torch range (15 m intermediate hose package + 5 m torch)
- ✓ Electronic MIG-MAG logic with 2-/4-cycle and adjustable point and interval control
- ✓ High operator ergonomics among other things, the inclined operating panel
- ✓ Robust, completely transportable case with large, stable wheels
- ✓ "3 steps to weld" operating concept with synergic automatic setting control
- ✓ ControlPro operation concept
- ✓ Manufactured and tested according to DIN EN 60974-1, with CE-mark, S-symbol and IP 23
- ✓ Quality wire feeder with 4 rollers
- ✓ Tension-free wire insertion at the press of a button (operating button in the wire feeder case)
- ✓ Cylinder trolley for up to 50 litre cylinders with low loading edge and double chain cylinder lock
- ✓ High efficiency and low energy consumption due to the most modern industrial electronics and fan on demand function

Easy handling guarantee.
The detachable wire feeder case.

The wire feeder case, which is mounted on the power source can easily be swivelled and positioned, it can also be removed and carried using the handle. The wire feeding is performed simply and tension-free by pressing a button. The operating button is located exactly where it is needed – at the 4-roll quality wire feeder inside the case. The automatic setting control for the correct material/ wire/ gas combination is also installed there. The fine correction of the wire, its performed using the ergonomic control panel installed inclined in the feeder case.

Case benefit – clearly more range.



3 steps to achieve weld perfection

1. Set weld program (synergic pre-selection)
2. Adjust voltage level
3. Wire fine correction

The power variants

	M-Pro 250 Control Pro with feed case	M-Pro 300 Control Pro with feed case
Welding range		
MIG-MAG	30 – 250 A	30 – 300 A
Voltage levels	12	12
Welding gases	Gas mixture + CO_2	Gas mixture + CO_2
Welding wires		
Steel Ø in mm	0.6 – 1.0	0.6 – 1.2
Alu Ø in mm	1.0 – 1.2	1.0 – 1.2
Standard duty cycle measured according to German quality standard DIN EN 60974-1 at 40 °C ambient temperature		
Current at 100 % duty cycle (40 °C)	150 A	170 A
Current at 60 % duty cycle (40 °C)	185 A	205 A
Duty cycle I max. (40 °C)	25 %	25 %
Machine		
Mains voltage	3~400 V	3~400 V
Mains fuse, delayed action	16 A	16 A
Dimensions in mm (L x W x H)	880 x 400 x 1200	880 x 420 x 1200
Weight	85 kg	94 kg

Quality
Made in Germany

The M 3000-Series

Your partner for heavy steel work.
Robust and powerful.

The machine easily handles thick and thin. Convincing as a compact system with integrated feeder or with separate wire feeder case. The M 3000 is a real work horse. With the robust case and 4-roll precision wire feeder it seems to be created **for the one purpose: demanding universal use in metalworking.** Yet it has more than is apparent at first glance. Because the best 50 Hz transformer technology ensures that not only large quantities can be welded in outstanding quality with the M 3000 Series.

The **processor-controlled automatic setting** regulates the wire feeder speed automatically, ensuring appropriate wire for the selected voltage level. If needed, you can, of course, adjust the wire speed manually as well.

The active choke system also adjusts itself automatically and ensures low-spatter ignition and impressive arc characteristics.

The M 3000 as compact system ... ... or with separate wire feeder case.

The M 3000 Series at a glance

- ✓ Impressive welding characteristics for steel, aluminium and stainless steel
- ✓ Microprocessor-based MIG-MAG controller for optimally matched welding current, feed, wire burn-back, gas post-flow and spot time
- ✓ 24 power levels
- ✓ 4-roll precision feeder
- ✓ “3 steps to weld” operating concept
- ✓ Perfectly adapted transformer/choke combination
- ✓ Active Inductance System controls the welding choke and changes the inductance completely electronically
- ✓ Adjustable ignition feed regulation ignition problems on the workpiece
- ✓ Available as compact system or with separate wire feeder case
- ✓ Powerful cooling system
- ✓ Available as gas or water cooled
- ✓ Highly efficient and low energy consumption due to the most modern power electronics and the fan on demand function
- ✓ Double chain gas cylinder lock
- ✓ Manufactured and tested according to DIN EN 60974-1, with CE mark, S-symbol and IP 23

The power variants

3 Years INDUSTRIAL WARRANTY
LORCH

M 3030 CuSi
260 A

M 3050
350 A

M 3070
400 A

Welding range	**M 3030 CuSi**	**M 3050**	**M 3070**
MIG-MAG	30 – 260 A	25 – 350 A	30 – 400 A
Voltage levels	41	24	24
Welding wires			
Steel Ø in mm	0.6 – 1.2	0.6 – 1.6	0.6 – 1.6
Alu Ø in mm	1.0 – 1.2	1.0 -1.6	1.0 – 1.6
CuSi Ø in mm	0.8 – 1.0	--	--
Practical duty cycle at 25 °C ambient temperature			
Current at 100 % duty cycle (25 °C)	180 A	230 A	260 A
Current at 60 % duty cycle (25 °C)	220 A	280 A	330 A
Duty cycle I max. (25 °C)	45 %	45 %	45 %
Standard duty cycle measured according to German quality standard DIN EN 60974-1 at 40 °C ambient temperature			
Current at 100 % duty cycle (40 °C)	160 A	210 A	240 A
Current at 60 % duty cycle (40 °C)	200 A	250 A	300 A
Duty cycle I max. (40 °C)	35 %	30 %	30 %
Machine			
Mains voltage	3 ~ 400 V	3 ~ 400 V	3 ~ 400 V
Mains fuse, delayed action	16 A	25 A	35 A
Dimensions in mm (L x W x H)	945 x 425 x 720	945 x 425 x 720	945 x 425 x 720
Weight	108.5 kg	109 kg	126 kg
Equipment versions			
Separate feeder case	--	○	○
Water-cooled	--	○	○

○ optional

3 steps to achieve weld perfection

1. Select operating mode
2. Adjust voltage level
3. Wire fine correction

M 3030 CuSi
The automotive workshop dream

The M 3030 CuSi with its outstanding **MIG brazing features** benefits from the same operating concept of the large industrial systems and shows itself as a shining example in matters of operating intelligence and adjustment accuracy. Car body professionals have one requirement. MIG brazing with the M 3030, to ensure **the quality of corrosion resistance** and **crash properties.** The M 3030 CuSi fulfils the dreams of every car body professional here. Metal sheets of 0.6 mm can be successfully joined from just 30 amps

M 3000

Quality
Made in Germany

The C Series

With prize-winning Digastep®-technology and impressive performance.

MIG-MAG with precision and intelligence. The C-dialog shows the way clearly. You no longer have to mess around with only step-based voltage control here. Instead, you can easily find the exactly right setting using **Digastep electronics** and its incredible **41 power levels.** It is so easy because our advanced thinking engineers have developed an **outstanding operating concept** which has been leading the way since its implementation. One synergic controller is enough to keep the welding process under perfect control. When we say "dialog", we mean the program. You only tell the C the material/wire/gas combination; the rest is simply controlled via the material thickness. That's it. The C responds promptly and automatically provides all other parameters using the **synergic function.**

In fact it performs its job so perfectly, that the C Series won the **German Innovation Prize** from the German Ministry for the Economy and Technology. The first welding system ever, to receive such an accolade. The C Series – built for people who produce quality work, every day.

The C Series at a glance

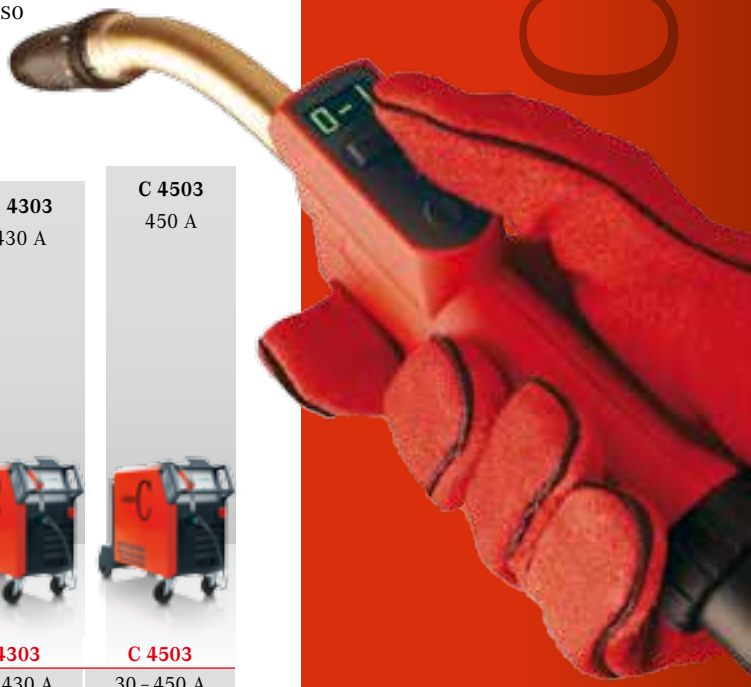
- ✓ Digastep electronics with 41 voltage steps
- ✓ Outstanding MIG-MAG weld characteristics
- ✓ In robust, completely transportable industrial housing
- ✓ Available as compact system or with separate wire feeder case
- ✓ Double feeder variants with one or two separate wire feeders
- ✓ Feeders are available in different versions: as workshop, construction, dockyard or robot case
- ✓ Available as gas or water cooled
- ✓ Industrial 4-roll precision feeder
- ✓ "3 steps to weld" operating concept
- ✓ Possibility for remote control torch with the Powermaster torch
- ✓ Tiptronic job memory for up to 100 welding tasks
- ✓ Choke control using Active Inductance System (inductance can also be adjusted manually)
- ✓ Digital display of welding current and voltage
- ✓ Plain text display with language selection in the desired language
- ✓ High efficiency and low energy consumption due to the most modern industrial electronics and the fan on demand technology
- ✓ Manufactured and tested according to DIN EN 60974-1, with CE mark, S-symbol and IP 23

3 steps to achieve weld perfection

1. Select operating mode
2. Material/wire/gas combination
3. Adjust welding current
   (always the perfect setting by the synergic function using the material thickness)

Remote control at the torch

You can save the time consuming moving between machine and workpiece for achieving optimum setting of your welding system. Simply use the innovative Lorch **Powermaster torch technology.** You can access all important parameters with this directly using the control panel at the torch. Jobs for more complex work piece's can also be re-called one after the other with this.



The power variants

	C 2603 260 A	**C 3003** 300 A	**C 3503** 350 A	**C 4303** 430 A	**C 4503** 450 A
Welding range	C 2603	C 3003	C 3503	C 4303	C 4503
MIG-MAG	30 – 260 A	30 – 300 A	30 – 350 A	30 – 430 A	30 – 450 A
Voltage levels	41	41	41	41	41
Welding wires					
Steel Ø in mm	0.6 – 1.2	0.6 – 1.2	0.6 – 1.6	0.6 – 1.6	0.6 – 1.6
Alu Ø in mm	1.0 – 1.2	1.0 – 1.2	1.0 – 1.6	1.0 – 1.6	1.0 – 1.6
Practical duty cycle at 25 °C ambient temperature					
Current at 100 % duty cycle	180 A	200 A	260 A	310 A	380 A
Current at 60 % duty cycle	220 A	260 A	320 A	380 A	450 A
Duty cycle I max.	45 %	45 %	45 %	45 %	60 %
Standard duty cycle measured according to German quality standard DIN EN 60974-1 at 40 °C ambient temperature					
Current at 100 % duty cycle	160 A	180 A	240 A	280 A	360 A
Current at 60 % duty cycle	200 A	240 A	300 A	360 A	430 A
Duty cycle I max.	35 %	35 %	40 %	40 %	50 %
Machine					
Mains voltage	3~400 V	3~400 V	3~400 V	3~400 V	3~400 V
Permitted mains tolerance	+/–15 %	+/–15 %	+/–15 %	+/–15 %	+/–15 %
Mains fuse, delayed action	16 A	16 A	25 A	32 A	32 A
Dimensions in mm (L x W x H)	1116 x 463 x 812	1116 x 463 x 812	1116 x 463 x 812	1116 x 463 x 852	1116 x 463 x 852
Weight	121 kg	132 kg	140 kg	167 kg	179 kg

MIG brazing: Also available as special CuSi version (with 30 – 260 amps) (C 26 LE)

The MicorMIG series

Transformers are so yesterday – Micor inverter technology is today. Simply better. The MIG-MAG all-rounder for every application.

Reliable, robust, simple to control and yet offered at a reasonable price. These are aspects usually associated with a step-controlled MIG-MAG welding system. But that was yesterday. It's time to start thinking differently. This is because Lorch MicorMIG **sets new standards** and makes switching to a modern, infinitely variable welding system as easy and effective as can be. Apart from offering **superior welding properties** the system also offers an exceptional price-performance ratio and simply comes across as a **better alternative to the common transformer system.** A transformer is only as good as its hardware. MicorMIG has simply more to offer. Real-world benefits such as **dynamic control** and **crater filling** – attributes that are nearly unimaginable in a transformer system. The MicorMIG offers you three different operating concepts, from very simple – similar to a transformer system – to convenient control including display, and enjoy a handling that offers superior ease and intuitiveness.

Plus a benefit that cannot be beaten: Its **patented Micor technology** lets every welder achieve perfection thanks to outstanding welding characteristics. For steel, stainless steel and aluminium. The system is, furthermore, certified in accordance with EN 1090 and **fully upgradeable.** If needed, you can simply add additional functions and welding processes, thereby remaining prepared to take on any welding challenge you may face in the future. All of this is unthinkable with a transformer system. The MicorMIG can do it. Excellent all around.

LORCH MiCOR INSIDE

The MicorMIG at a glance

- ✓ Infinitely variable welding inverter for MIG-MAG welding
- ✓ Innovative and patented Micor technology delivers maximum power and exceptional welding characteristics
- ✓ Superior welding performance on steel, stainless steel and aluminium
- ✓ Exceptionally well-suited for mixed gas and CO_2
- ✓ With electrode welding function (special programs for basic/rutil/cel-electrode and googing)
- ✓ Can be upgraded by additional functions and welding processes such as SpeedArc to boost MIG-MAG welding speeds by up to 30 %
- ✓ Available as a compact system or with separate wire feeder case
- ✓ Available as gas or water cooled
- ✓ Industrial 4/2-roll precision wire feeder special rolls available for easy change to 4/4-roll feeder system
- ✓ "3 steps to weld" operating concept
- ✓ Three control panels to choose from: Basic, BasicPlus, ControlPro (including synergy control for BasicPlus or greater)
- ✓ Including crater filling as well as dynamic control
- ✓ Digital display of welding current and voltage
- ✓ User identification option via RFID
- ✓ Suitable for use with Lorch Powermaster remote control torch technology
- ✓ Can be optionally equipped for push-pull torch and Lorch NanoFeeder (for up to 50 m welding range)
- ✓ In a robust, completely transportable industrial housing. Models MicorMIG 350 or greater come standard in an industrial housing with extra-wide chassis
- ✓ Manufactured and tested according to DIN EN 60974-1, with CE mark, S-symbol and IP 23

MIG-MAG perfection to the very end.

MicorMIG never settles, not even after reaching the end of the seam. Step-controlled systems commonly create a sink mark at the end of the weld seam, the so-called end crater. Apart from looking unpleasant, this mark represents a weak spot in the weld seam that may, at worst, result in cracks. This is not what we consider quality. MicorMIG offers you a reliable and straightforward solution: You can conveniently enable **the quality feature "crater filling"** directly on your operating panel. Instead of being terminated abruptly, the welding current is reduced in a well-controlled manner. The weld pool is given enough time to cool down, and the end crater is filled automatically with material when the welding current is rather low. The result: **a weld seam with completely convincing quality.**

Without crater filling

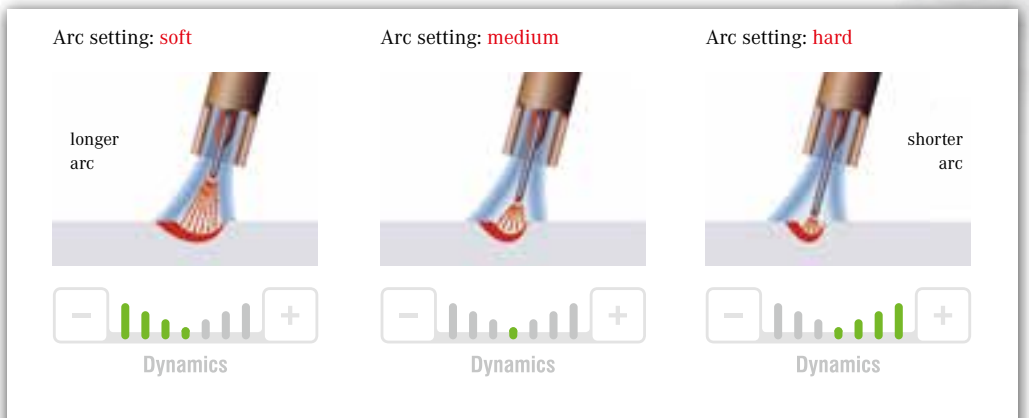
With crater filling – perfect end of weld seam

3 steps to achieve weld perfection

1. Select process/operating mode
2. Adjust welding current
3. Fine-tune arc characteristics

Done as intended:
Dynamic control with a push of a button.

You know how it is from experience. Every transformer system has its own unique characteristics. One system produces a slightly softer arc, while the next generates a slightly harder arc. More importantly, every welder has his own preference in terms of what he considers to be the perfect arc: **softer and longer, shorter and harder or somewhere in between.** This calls for a level of distinction that a transformer system simply cannot realise. Not so with the MicorMIG: Our system allows you to **individually adjust** the **dynamics of the arc** to suit the work and welding position at hand and will find the simplest and fastest arc setting that is most suitable in each case. The rest of the job is carried out by the **intelligent arc control technology** incorporated into the MicorMIG series. All essential parameters are controlled automatically in the background to achieve a perfect weld seam every time.



Easy handling guaranteed – the

Basic

- ✓ Infinitely adjustable welding current setting
- ✓ Voltage and amperage display
- ✓ Activation of end crater filling as necessary
- ✓ 3-stage arc dynamic control

BasicPlus

- ✓ Infinitely adjustable welding current setting
- ✓ Voltage and amperage display
- ✓ Crater filling
  (can be adjusted in the submenu)
- ✓ 7-stage arc dynamic control
- ✓ Synergic control
- ✓ Welding program selection in the feed compartment
- ✓ Full upgradeable

No more back and forth between workpiece and machine. All operating concepts can be combined with Lorch's Powermaster remote torch control technology.

The MicorMIG grows with "your" Future-proof thanks to built-in

A transformer system will stay the way it was built. Its expandability and functional scope are limited on account of its hardware. Not so with the MicorMIG. When you opt for this system, you will remain perfectly **flexible thanks to the upgradeability** and modular design of its fully digital control inverter technology and feedback control systems. The level of flexibility lets you enjoy both **customised solutions that are tailored** to accomplish your company's welding tasks and the assurance that you will keep benefiting from any future advances in technology. It has never been easier to adjust a welding system to the constantly

operating concepts of the MicorMIG

Simply greater functionality and precision

Power settings

Machine settings possible via amperage level, wire feed speed or material thickness – depanding on your preference

Arc adjustment

Individual arc adjustment via the welding voltage with the option of displaying the percentage deviation from the suggested value

ControlPro

- ✓ Infinitely adjustable welding current setting
- ✓ Voltage and amperage display
- ✓ Additional, large OLED graphic display for convenient and intuitive menu navigation as well as the display of the third main parameter
- ✓ Crater filling (can be adjusted in the submenu)
- ✓ 21-stage arc dynamic control
- ✓ Synergic control
- ✓ Welding program selection in the feed compartment
- ✓ Tiptronic job memory
- ✓ Unlimited upgradeability

challenges. upgradeability.

changing requirements in the welding industry and to add on welding processes, welding programs and features that will streamline your workflows. It is even possible to upgrade and retrofit the operating panels of the MicorMIG series. **The purchase of a MicorMIG system translates to progress.** Both at the time of purchase and the time thereafter. You add the functionality you need precisely when you need it. The MicorMIG allows you to be and remain on the safe side and to look forward to what the future holds in store.

FUTURE-PROOF

Welding processes & functional modules of the future

Upgrade welding processes

f. e.
- SpeedArc
- TIG
- Gouging

Upgrade Welding programs

f. e.
- CuSi package
- Aluminium package
- Stainless steel package

Only practical
Clever details for improved

Compact, robust and functional.
The ideal companion for every company.

50 l cylinder trolley

Cylinder trolley with double chain locks and a low loading edge.

Protection in every detail

Large handles allows you to move the system with greater ease and protect switches and connections at the same time.

Wire compartment lighting

High-power LEDs illuminate the compartment effectively, making it much easier for you to change the rolls and thread in the wire even in complete darkness or low light conditions.

Synergic pre-selection – where it should be

MicorMIG versions BasicPlus and greater offer a large number of welding programs for various material/wire/gas combinations. You can set the programs at the wire reel in the wire feed compartment of the compact system or the wire feeder case.

Changing rolls without tools

The standard 4-roll quality wire feeder sets itself apart by its sturdiness, compact dimensions and easy roller exchange that requires no tools. The standard 2-driven feed system can easily be upgraded to a 4-driven feed system, simply by exchanging the rollers.

Colour coding of the feed rolls

Never pick up the wrong rolls again. Lorch's colour-coded feed rolls of the MicorMIG series represent different wire diameters and make every welder's life much easier.

use matters:
everyday welding.

For demanding applications.
MicorMIG industrial housing for models 350 A or greater.

Improved stability

The extra wide track provides for enhanced stability and additional collision protection.

Easy to lift by crane

Extra lifting eyes and low weight allow for smoother transport and lifting by cranes.

Optimised electrode welding

A MIG-MAG system that can also handle electrodes. Simply remove the torch, connect the additional electrode holder to the electrode socket, and select electrode welding on the operating panel.

Welder identification made easy

Clear definition of the modification and usage rights for different users. Increasingly becoming a must for modern production plants. Welder identification made easy. Simple by using the RFID/NFC technology built into the operating panel.

Exchange of the inter-connection hose package

The inter-connection hose package can be replaced by the welder himself or be transported separately from the case due to the easy accesibiliy in the wire feeder case and the powersource.

For clearer views

Trust is good, but control is better. There is nothing more annoying than having to take an unscheduled break from work to go and fetch a new roll of wire. When using the MF 08 wire feeder, all you have to do is take a quick glance at the built-in fill level indicator to know how much wire is still left at your disposal.

MIG-MAG infinitely variable

Powerful MIG-MAG all-rounder for every application

The MicorMIG series will win you over with its outstanding welding performance on sheet metal and in the area of medium to heavy steel work. Also, certified in accordance with EN 1090.

Quality management made easy.
The cost-saving solution for the EN 1090.

All businesses whose welding operations are subject to building authority approval have to meet the provisions of the EN 1090 standard from mid-2014. All welding tasks will then have to be completed based on an approved welding process. When using a Lorch MicorMIG, you will not have to worry about whether your welding processes comply with the EN 1090 standard. This is because the MicorMIG series (starting with the BasicPlus version including synergic control and automatic setting control enables small businesses as well as and large corporations to provide the evidence of conformity required by the **EN 1090** in a **quick, efficient and cost-effective** way for metal sheets with a tensile yield strength of up to 355 N/mm². The corresponding EN 1090 WPS package lets you avoid time-consuming individual tests as the package contains welding instructions that apply to all relevant standard welding processes and have been **certified by an approved german inspection authority.** What is more, the MicorMIG can be combined with Lorch's Q-Data, an additional recorder system, that offers **welding data documentation** the way it should be: as easy as it can be. The recorder also comes with evaluation and documentation software that records all of your welding activity. Lorch's EN 1090 advantage package is made complete by Lorch's **calibration service** which ensures that your welding operations will continue to satisfy WPS requirements. Lorch quality "Made in Germany" allows you to be and remain fit for the future.

The power variants

3 Years INDUSTRIAL WARRANTY LORCH

WPQR-APPROVED EN 1090 CONFORM Welding Systems

MicorMIG 300
300 A

MicorMIG 350
350 A

MicorMIG 400
400 A

MicorMIG 500
500 A

Welding range	**MicorMIG 300**	**MicorMIG 350**	**MicorMIG 400**	**MicorMIG 500**
MIG-MAG	30 – 300 A	30 – 350 A	30 – 400 A	30 – 500 A
Voltage adjustment	Infinitely variable	Infinitely variable	Infinitely variable	Infinitely variable
Welding gases	Mixed gas + CO_2	Mixed gas + CO_2	Mixed gas + CO_2	Mixed gas + CO_2
Welding wires				
Steel Ø in mm	0.6 – 1.2	0.6 – 1.2	0.6 – 1.6	0.6 – 1.6
Alu Ø in mm	1.0 – 1.2	1.0 – 1.2	1.0 – 1.6	1.0 – 2.4
CuSi Ø in mm	0.8 – 1.2	0.8 – 1.2	0.8 – 1.2	0.8 – 1.2
Standard duty cycle measured according to German quality standard DIN EN 60974-1 at 40 °C ambient temperature				
Current at 100 % duty cycle (40 °C)	200 A	250 A	300 A	370 A
Current at 60 % duty cycle (40 °C)	250 A	300 A	370 A	430 A
Duty cycle I max. (40 °C)	45 %	45 %	45 %	45 %
Machine				
Mains voltage	3~400 V	3~400 V	3~400 V	3~400 V
Permitted mains tolerance	+15/–30 %	+15/–30 %	+15/–30 %	+15/–30 %
Mains fuse, delayed action	32 A	32 A	32 A	32 A
Dimensions in mm (L x W x H)	880 x 400 x 755	880 x 490 x 855	880 x 490 x 855	880 x 490 x 855
Weight (compact system, gas-cooled)	51 kg	60 kg	64 kg	73 kg
Extras				
EN1090/WPS booklet	○	○	○	○

○ optionaly

The Lorch MF-08

The full-protection wire feeder case.
Robust, exceptionally stable and fully insulated.

The first thing you will notice when looking at Lorch's MF-08 is its design. We grant you that it looks different, and that is because it is different. We had a clear objective in mind when developing the MF-08: We wanted to design a wire feeder case suitable for use in almost every business and capable of handling **nearly every type of application.** We revisited even the smallest detail over and over again and developed it further. The MF-08 provides every welder with exactly the wire feeder case he can expect – and much more. Made of high-performance plastic, the housing of this full-protection wire feeder case offers one thing first and foremost apart from stability and robustness: Safety. In contrast to conventional cases made of metal, the MF-08 is **fully insulated** and, thus, uniquely capable of handling applications that rank among the trickiest and most challenging from a technical standpoint. At the very least since the introduction of the directive specifying that welding benches need to be grounded – but also based on experience from normal application situations – has it become apparent that every concealed cover and every deformed wire coil in a metal case carries the inherent risk of a ground fault including all of its consequences. A defect to the wire feeder will be the least of your problems. While handling work materials with care is helpful, genuine safety is only guaranteed by a full-protection wire feeder case. The MF-08 – **a genuine safety advantage for every business.**

A perfect grip. For extended range and a maximum of comfort and mobility.

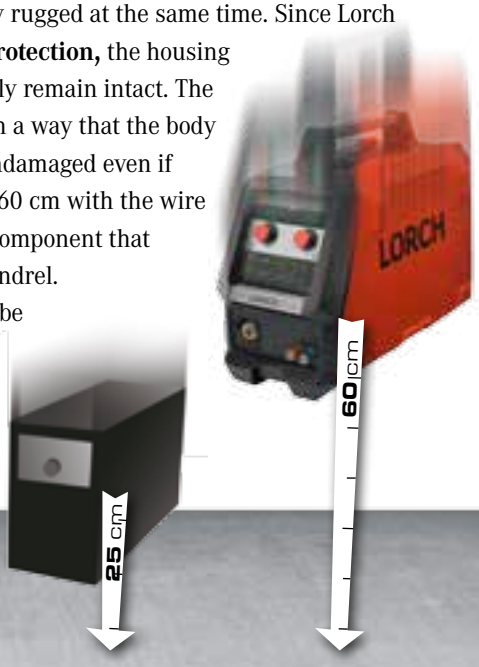
Especially when working on site or in hard-to-reach places, you will need a wire feeder case that you can take to your actual workplace. When it comes to mobility, this wire feeder case stands out from other products thanks to many smart details. It is **solidly mounted on the power source** and **can be swivelled easily.** But while ordinary protective tool cases commonly offer only one handle option, thereby making it harder for the welder to hold them, the MF-08 offers **a whole range of convenient handle options.** For instance, you can conveniently detach it from the system without much effort by using the handles designated for this purpose. Its **low weight** is an extra bonus in this regard. These properties also make it the solution of choice **whenever you need to pass a case through a manhole,** climb up and down scaffolding, or require a case that you can hang from boom or position overhead in order to work unhindered and with ease. Details that you will come to appreciate while performing your most demanding jobs.

Whether upright or horizontal – easy to control in every position.

Every real-world application poses its own challenges. Sometimes you wish for a horizontal case while some tasks require a vertical case. MF-08 offers you both options: it can be used upright or in a vertical position. This is thanks to the sturdy and distinctive **support feet found on the side.** In case you need the case to be permanently horizontal. You can have the **operating panel built in rotated by 90°.** You will always carry the fully protected case with ease in the upright position. This is what we call flexibility or plain convenience.

Extremely robust & protected against falls. More than is required by the standard.

Anyone who has ever taken a wire feeder case on site is familiar with the problem: **any case is prone to fall down at some point.** The standard requires: It must be capable of surviving a free fall from a height of 25 cm. Yes, honestly! Only that. However, heights are usually greater than that if the case falls out of the back of the van or from your hand while carrying it, leaving the case damaged in most cases. The MF-08 is different. Its sturdy body made of resistant special plastic reinforced with glass fibres is exceptionally lightweight, yet extremely rugged at the same time. Since Lorch incorporated **top crash protection,** the housing and its innards will usually remain intact. The MF-08 is designed in such a way that the body of the case will remain undamaged even if dropped from a height of 60 cm with the wire spool inserted. The only component that may break is the wire mandrel. And, this component can be replaced in no time at all. This is first-rate protection as we define it today.



Full-protection wire feeder MF-08

Fully insulated

We are bringing light into darkness.

Progress can be so simple at times. A wire feed compartment with integrated lighting. This makes changing the wire a breeze even in poor light conditions.

Surprisingly simple – bothside accessibility.

An important aspect in terms of a wire feeder case's suitability for everyday use is the ease with which you can insert the wire reel. At the same time, this level of convenience poses a real challenge for the development of a **compact case that is suitable for use in manholes.** There are a number of details and special features in the design of the MF-08 that guarantee exceptional ease of use when you need to change wire reels. These include, for instance, **a slightly slanted wire reel** and side covers that swing open and lock into place, thereby allowing easy access to the compartment especially in the top portion of the unit. Since it is also possible to open the other side of the feeder case, the electronic system and the motor are protected and covered, you get convenient access to all connections of the hose package. The locking mechanism and the strain relief device of the inter-connection hose package are designed in such a way that the hose package can be replaced by the welder himself or, if necessary, be transported separately from the case without the need to enter a technically sensitive area or an area that may only be opened by trained personnel.

A genuine lightweight in its class. Only 10.6 kg net weight.

Especially when working on site, you will have to go long distances every day while carrying your equipment. Welding large workpieces also often requires that you move your wire feeder case. It goes without saying that each additional kilogram adds to the burden. When compared to ordinary wire feeder cases made of metal, which often easily weigh in at 15 kg or more even without the wire reel, our Lorch MF-08 distinguishes itself with its low weight. Thanks to its own low weight of merely 10.6 kg, the case is easy to transport, yet sturdy enough to take a beating.

Accessories

Undercarriage kit
for upright position

Undercarriage kit
for horizontal position

Protection cage
with all-around tube-frame

Protection skids
suitable for work
on heated surfaces

MIG-MAG-Full-protection wire feeder MF-08

Feeder speed	2.0 – 25.0 m/min
Drive/feeder	4-roll/tacho-regulated motor/ digital speed feedback
Suitable for use in manholes	Starting from 42 cm oval (without handle)
Fully insulated	●
Flowmeter gas	○
Dimensions in mm (L x W x H)	575 x 245 x 434 (380*)
Weight (net)	10.6 kg

○ optional * Height without handle

Tailor-made to your

Configure your unit just as you need it – optimally

Assess your situation and configure your **system just as you need it** – optimally tuned for the real-world application required for your business.
Let's take a look at a unit from the S-SpeedPulse series for an example. **With the choice of the** wire feed unit and the decision on gas or water cooling, you determine the basic configuration of your unit. **With the** feeder unit versions, you have the choice between workshop, assembly, and dockyard wire feeders – naturally all with industrial 4-roll precision feed. **The length of the interpass hose packages,** the connection between power source and case unit, is **available in 1, 5, 10, 15 or 20 m lengths.** And therefore you can work, depending on torch length, up to 25 m away from the unit. **You can achieve the maximum degree of freedom with the choice of a** Powermaster torch with remote control technology. You can control all important parameters with this directly using the control panel at the torch. **The selection of** operating options is just as customisable. You can freely decide where the operating unit is to be located – just in the case unit, on the main unit, or on both! **In addition, there is a** wide range of accessories which finish off your customised performance package. **Starting with the feeder case unit undercarriage-wheel set or rotary unit, as well as** extra large wheels for uneven ground, if required. Or the handy, height-adjustable **hose package holder:** the fixture is designed as a simple and convenient holder for hose packages and NanoFeeders, comes in all standard lengths that are commonly available, and can be mounted on both sides.

Size it up: Where do you want the wire feed unit?

In the compact unit. Drivable compact unit with integrated wire feed.

In the Separate feeder unit. In this way, you can work up to 25 metres away from the unit. The hose package connects you.

application

tuned for your field of work.

Case unit versions

Workshop wire feeder

Assembly wire feeder

Dockyard wire feeder

Robot feed case

RF-06
(compact feeder case for hollow arm robots or robots with an external hose package)

Operating options

At the power source

At the feeder unit

Or at both

At the remote control operation panel

Direct at the torch

2 feed units Above with a separate unit and below inside the main unit. Ideal, if you often weld using different wires. You save yourself the trouble of constant changeover.

2 feed units as a double separate feeder case unit. Perfect for different wires, and when maximum mobility is required.

The P Series

High-end inverter technology. With SpeedArc. MIG-MAG has never been stronger.

There are certainly many infinitely variable MIG-MAG systems, but very few, if any, have such **inverter** technology. This is what makes the crucial difference. It's as if we have **reinvented MIG-MAG.** We offer an incredibly stable and easy to control arc across the complete current range. But that is not all. The P Series has **SpeedArc**. It is ideal for narrow joints, saves material, achieves **higher strength** due to the improved deeper penetration and is up to **30 % faster** – for many more meters of weld seam. Every single day.

The P is available in two versions: **P basic** and **P synergic.** Both have the "3 steps to weld" operating concept, the robust industrial housing and the **4-roll precision feeder** in common. The P basic already has all functions that are required for excellent standard MIG-MAG welding. In contrast, the P synergic is the operating variant which the MIG-MAG welder requires for challenging welding tasks. Due to the **synergic control,** it is extremely easy to operate, nevertheless all welding parameters can be individually adjusted and fine tuned if required.

P basic P synergic

The P Series at a glance

- ✓ Infinitely variable MIG-MAG welding inverter
- ✓ Outstanding MIG-MAG weld characteristics for mixed gas and CO_2
- ✓ Comes with SpeedArc® as standard
- ✓ P synergic, optionally available with SpeedUp®, SpeedRoot® and SpeedCold® (available as an upgrade)
- ✓ With manual metal arc welding function (incl. gouging from the P4500 upwards)
- ✓ In robust, completely transportable industrial housing
- ✓ Available as compact system or with separate wire feeder case
- ✓ Double feeder variants with one or two separate wire feeders
- ✓ Cases available in different versions: as workshop, construction, dockyard or robot case
- ✓ "3 steps to weld" operating concept
- ✓ Available as gas or water cooled
- ✓ Industrial 4-roll precision feeder
- ✓ Digital display of welding current and voltage
- ✓ 2 operating variants can be selected:
  - P basic (wire and voltage regulation)
  - P synergic (completely synergic control and plain text display)
- ✓ Suitable for use with Lorch Powermaster remote control torch technology
- ✓ Can be optionally equipped for push-pull torch and intermediate drive (for up to 43 m welding range)
- ✓ Can be completely automated (LorchNet connection, robot interface or bus coupling)
- ✓ Manufactured and tested according to DIN EN 60974-1, with CE mark, S-symbol and IP 23

The P = MIG-MAG-Max.

There are things that are worth repeating. It is as if we had reinvented MIG-MAG. We call this the MIG-MAG-Max. For your use, this means:

- **digital regulation technology** for reliable, faster and spatter-free ignition
- **automatic arc length regulation** for balancing unevenness, e.g. welding over tack welds
- automatic, **infinitely variable welding choke adjustment** for dynamic welding behaviour and use of different welding gases (also optimum for CO_2)
- clean weld end due to **crater filling**
- perfect re-ignition and an always pointed/sharp wire end due to the **automatic end pulse**
- and **MIG brazing** perfection

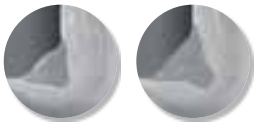
The benefits of the SpeedArc

- **SpeedArc is faster:**
  The arc from **SpeedArc** is more focused, has higher energy density and due to this way a higher arc pressure for the weld pool. This makes MIG-MAG welding up to 30 % faster. Even up to 15 mm thick plates can be welded in just one layer.

- **SpeedArc for narrow joints:**
  The highly concentrated, stable arc of the SpeedArc can also be used with long stick out for welding into narrow joints.

Standard SpeedArc

- **SpeedArc saves material:**
  Large weld preparation angles are also now a thing of the past. 60° are no longer necessary, 40° are enough for the P. Less material – less time – less costs.

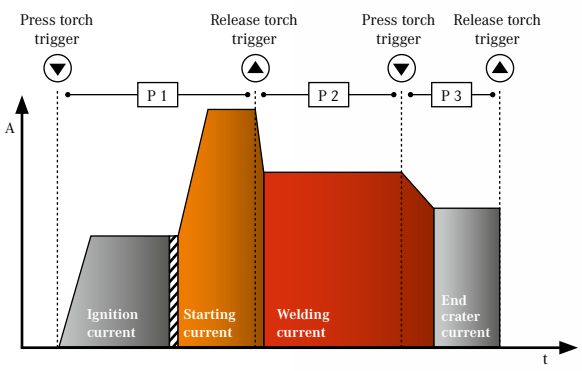


Standard SpeedArc

- **SpeedArc higher quality**:
  With the SpeedArc of the P Series the penetration depth in the base material is significantly greater when compared to normal MIG-MAG systems.

Quatromatic

Quatromatic prevents cold lap at the start of the weld and provides optimum end crater filling. Because you can save three individual parameter settings (P1 – P3) with it and select these in 4-step mode using the torch trigger.



SpeedArc INNOVATION

Quality
Made in Germany

MIG-MAG infinitely variable

For many more meters of weld seam

The P series is already impressive with outstanding MIG-MAG welding characteristics which let every welder work more easily and in a more productive way. The SpeedArc feature of the P series also allows you to activate the MIG-MAG “turbo” and weld up to 30 % faster.

3 steps to achieve weld perfection – the operating concept of the P

P basic

1. Select operating mode
2. Adjust voltage
3. Specify wire feed speed

- ✓ Quatromatic
- ✓ Powermaster torch remote control (current +/–)
- ✓ SpeedArc

P synergic

1. Select operating mode
2. Wire/gas/material combination
3. Adjust welding current
   (always the perfect setting by synergic function using the material thickness)

- ✓ Synergy control
- ✓ Quatromatic
- ✓ Powermaster torch remote control (current +/– and Tiptronic)
- ✓ Tiptronic job memory for 100 welding tasks
- ✓ SpeedArc
- ✓ SpeedUp (optionally)
- ✓ SpeedRoot (optionally)
- ✓ SpeedCold (optional)

The power variants

Optional accessories for your P 3000 mobile: **Water cooling unit WUK 5 and Mobil-Car**

P 3000 mobile

300 A

P 3500

350 A

P 4500

450 A

P 5500

550 A

Welding range	**P 3000 mobile**	**P 3500**	**P 4500**	**P 5500**
MIG-MAG	25 – 300 A	25 – 350 A	25 – 450 A	25 – 550 A
Voltage adjustment	infinitely variable	infinitely variable	infinitely variable	infinitely variable
Welding gases	Gas mixture + CO_2	Gas mixture + CO_2	Gas mixture + CO_2	Gas mixture + CO_2
Welding wires				
Steel Ø in mm	0.6 – 1.2	0.6 – 1.2	0.6 – 1.6	0.6 – 1.6
Alu Ø in mm	1.0 – 1.2	1.0 – 1.2	1.0 – 1.6	1.0 – 2.4
CuSi Ø in mm	0.8 – 1.2	0.8 – 1.2	0.8 – 1.2	0.8 – 1.2
Practical duty cycle at 25 °C ambient temperature				
Current at 100 % duty cycle (25 °C)	270 A	285 A	380 A	500 A
Current at 60 % duty cycle (25 °C)	300 A	325 A	420 A	530 A
Duty cycle I max. (25 °C)	65 %	50 %	50 %	50 %
Standard duty cycle measured according to German quality standard DIN EN 60974-1 at 40 °C ambient temperature				
Current at 100 % duty cycle (40 °C)	250 A	260 A	360 A	400 A
Current at 60 % duty cycle (40 °C)	280 A	300 A	400 A	500 A
Duty cycle I max. (40 °C)	50 %	30 %	30 %	30 %
Machine				
Mains voltage	3~400 V	3~400 V	3~400 V	3~400 V
Permitted mains tolerance	+/–15 %	+/–15 %	+/–15 %	+/–15 %
Mains fuse, delayed action	16 A	16 A	32 A	35 A
Dimensions in mm (L x W x H)	812 x 340 x 518	1116 x 463 x 812	1116 x 463 x 812	1116 x 463 x 812
Weight	34 kg	92.8 kg	97.3 kg	107.3 kg
Operating concepts				
P basic	●	●	●	●
P synergic	●	●	●	●
EN 1090/WPS booklet (for P synergic)	○	○	○	○

○ optional

Pulse welding at its best.

What started with aluminium is today also essen

High end quality with the Saprom technology

LORCH SAPROM TECHNOLOGY

For more than 50 years Lorch has been recognised as one of the most innovative companies and an engine of progress in welding technology. A clear example of how you directly benefit from this innovative force is with the Saprom technology, which we introduced at that time, and which made pulse technology into what it is today. In the mean-time, 4th generation technology in the form of MIG-MAG pulse welding is now of even better quality, faster and more productive than ever before. If we look more closely at the development of pulsed welding technology, it was already the absolute state of the art for Aluminium welding 20 years ago, and so it still remains. Today Pulse is used almost everywhere that money is earned through welding and it could be said, has even become essential. Finally, the pulse speed for steel and stainless steel was increased by up to 48 % – by means of SpeedPulse. That with an additional

Saprom 2
- Puls

Saprom 5
- Puls

Saprom 900
- Puls
- TwinPuls

1988 1995 1998

“Spatter-free welding”

✓ Analogue pulse technology

“The invention of TwinPuls”

✓ Analogue/digital pulse technology

The Saprom® technology.

tial when working with steel.
from Lorch has made pulse welding productive.

lasting increase in the cost effectiveness and improvement in the weld-seam quality with regards to penetration, heat transfer, distortion, and alloy burn off. The high weld quality means that costly rework can often be avoided, in contrast with classical MIG-MAG processes. That makes the Saprom technology twice as productive nowadays. To say nothing of the improvements in ergonomics and the halving of the noise level.
"Vorsprung durch Speed" – means faster welding, and that's not just pulse welding. With the Speed process family, Lorch makes it simple and more productive to weld, whether by MIG-MAG, MIG-MAG pulsing, or root and vertical seam welding.

To learn everything about the Lorch Speed process, refer to the following pages, and visit www.masters-of-speed.de

"Fully digital revolution"

- ✓ Introduction of CAN-BUS technology with LorchNet
- ✓ Powermaster remote control technology for torch

"Vorsprung durch Speed"

- ✓ Up to 48 % faster thanks to patented SpeedPulse process technology
- ✓ Highly productive welding by means of new MIG-MAG special processes: SpeedArc, SpeedRoot, SpeedUp, SpeedCold, Speed-TwinPuls

The S Series

The entry into the professional world of pulsing.
Expandable with all Lorch Speed processes.

Enter into the professional world of pulsing without compromise. Whoever looks into the future of his work should not want to make any compromise with this MIG-MAG pulsing system. With the new upgradeable S Series, you are future-proof and absolutely flexible. You can adapt the system individually for new requirements at any time – with all of the MIG-MAG Speed processes from Lorch: SpeedPulse, SpeedArc, SpeedUp and also the new SpeedRoot. The S Series is also impressive with an outstanding duty cycle, the "3 steps to weld" operating concept and the robust industrial housing including many practical details. The strong handles provide not only easy manoeuvrability but they also protect the control panel and connections. They can also be used in conjunction with the lifting points for easy lifting with a crane. The ingeniously robust cylinder trolley, with its **low gas cylinder support** makes changing the cylinder easier. It is also available as double cylinder version for two 50 litre cylinders.

The S Series at a glance

- ✓ Infinitely variable welding inverter for MIG-MAG pulsed arc welding
- ✓ Comes with SpeedArc® as standard
- ✓ Expandable with all MIG-MAG Speed processes (SpeedPulse®, SpeedUp®, SpeedRoot® and SpeedCold®)
- ✓ With electrode welding function (incl. gouging from the S5 upwards)
- ✓ In robust, completely transportable industrial housing
- ✓ Available as compact system or with separate wire feeder case
- ✓ Double feeder variants with one or two separate wire feeders
- ✓ Feeder available in different versions: as workshop, construction, dockyard or robot case
- ✓ "3 steps to weld" operating concept
- ✓ Available as gas or water cooled
- ✓ Industrial 4-roll precision feeder
- ✓ Plain text display with language selection
- ✓ Digital display of welding current and voltage
- ✓ Tiptronic job memory for up to 100 welding tasks
- ✓ Suitable for use with Lorch Powermaster remote control torch technology
- ✓ Can be optionally equipped for push-pull torch and intermediate drive (for up to 43 m welding range)
- ✓ Manufactured and tested according to DIN EN 60974-1, with CE mark, S-symbol and IP 23

The power variants S with standard Pulse

Optional accessories for your S 3 mobile: **Water cooling unit WUK 5 and Mobil-Car**

S 3 mobil
25–320 A

S 3
25–320 A

S 5
25–400 A

S 8
25–500 A

Welding range	**S 3 mobile**	**S 3**	**S 5**	**S 8**
MIG–MAG	25 – 320 A	25 – 320 A	25 – 400 A	25 – 500 A
Voltage adjustment	Infinitely variable	Infinitely variable	Infinitely variable	Infinitely variable
Welding gases	Gas mixture + CO_2	Gas mixture + CO_2	Gas mixture + CO_2	Gas mixture + CO_2
Welding wires				
Steel Ø in mm	0.6 – 1.2	0.6 – 1.2	0.6 – 1.6	0.6 – 1.6
Alu Ø in mm	1.0 – 1.2	1.0 – 1.2	1.0 – 1.6	1.0 – 2.4
CuSi Ø in mm	0.8 – 1.2	0.8 – 1.2	0.8 – 1.2	0.8 – 1.2
Practical duty cycle at 25 °C ambient temperature				
Current at 100% duty cycle	280 A	280 A	350 A	500 A
Current at 60% duty cycle	320 A	320 A	400 A	500 A
Duty cycle I max.	75%	75%	75%	100%
Standard duty cycle measured according to German quality standard DIN EN 60974-1 at 40 °C ambient temperature				
Current at 100% duty cycle	250 A	250 A	320 A	400 A
Current at 60% duty cycle	280 A	280 A	350 A	500 A
Duty cycle I max.	40%	40%	50%	60%
Machine				
Mains voltage	3~400 V	3~400 V	3~400 V	3~400 V
Permitted mains tolerance	+/–15%	+/–15%	+/–15%	+/–15%
Mains fuse, delayed action	16 A	16 A	32 A	32 A
Dimensions in mm (L x W x H)	812 x 340 x 518	1116 x 463 x 812	1116 x 463 x 812	1116 x 463 x 812
Weight	34 kg	92.8 kg	97.3 kg	107.3 kg
Extras				
EN1090/WPS booklet	○	○	○	○

○ optional

S Series

3 steps to achieve weld perfection

1. Select operating mode
2. Wire/gas/material combination
3. Adjust welding current
   (always the perfect setting by the synergic function using the material thickness)

TwinPuls®–Ideal for aluminium

TwinPuls controls specifically and separates the heating and cooling phase. The low heat input minimises the delay. And welding in difficult positions is simpler and more secure. The weld appearance is impressive – almost as good as TIG. Also of great benefit of course for CrNi materials.

S-SpeedPulse® Series

Up to 48 % faster for steel and stainless steel SpeedPulse – an invention by Lorch.

The S-SpeedPulse does not make any compromises. It only knows one objective: A perfect, productive weld seam. To achieve this it combines the **speed benefits** of the spray arc with the **application and quality benefits** of the pulsed arc. While pulsing technology for aluminium and stainless steel is already well established, you can now also enjoy the pulse benefits for steel welding: **outstanding control** of the arc, better control of the weld pool, practically no rework and high weld quality – and all of this with previously unachievable welding speeds. It is not only the **Speed** which clearly makes the S-SpeedPulse from Lorch better. Due to the "3 steps to weld" operating concept, you now arrive more simply and more quickly at the **perfect MIG-MAG weld.** Because, in principle, it is as easy to use as a drilling machine. Faster and more cost-effective than all the pulsing systems we compared it to. Speed Up your Pulse – for maximum productivity.

LORCH SAPROM TECHNOLOGY

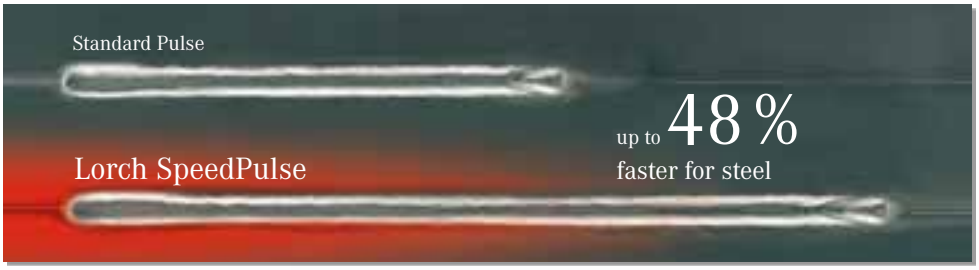
WPQR-APPROVED EN 1090 CONFORM Welding Systems

The S-SpeedPulse® Series at a glance

- ✓ Infinitely variable welding inverter for MIG-MAG pulsed arc welding
- ✓ Including SpeedPulse® = up to 48 % faster
- ✓ Comes standard with TwinPuls® and Speed-TwinPuls®
- ✓ Comes with SpeedArc® and SpeedRoot® as standard
- ✓ Optionally available with SpeedUp® and SpeedCold®
- ✓ With manual metal arc welding function (incl. gouging from the S5-SpeedPulse upwards)
- ✓ In robust, completely transportable industrial housing
- ✓ Available as compact system or with separate wire feeder case
- ✓ Double feeder variants with one or two separate wire feeders
- ✓ Feeder available in different versions: as workshop, construction, dockyard or robot case
- ✓ "3 steps to weld" operating concept
- ✓ Available as gas or water cooled
- ✓ Industrial 4-roll precision feeder
- ✓ Plain text display with language selection
- ✓ Digital display of welding current and voltage
- ✓ Tiptronic job memory for up to 100 welding tasks
- ✓ Quatromatic function
- ✓ Suitable for use with Lorch Powermaster remote control torch technology
- ✓ Can be optionally equipped for push-pull torch and intermediate drive (for up to 43 m welding range)
- ✓ Can be completely automated (LorchNet connection, robot interface or bus coupling)
- ✓ Manufactured and tested according to DIN EN 60974-1, with CE mark, S-symbol and IP 23

Steel is also now pulse-welded

The qualities of a good pulsed arc are well known. Virtually **spatter-free, optimum weld pool control, controlled metal transfer** and **practically no reworking required.** Every experienced MIG-MAG welder today now uses this process for stainless steel and aluminium. But why not for steel welding? Why is that not pulsed? The pulsed arc welding process is also better and easier to control on steel. However, it was the case: where less importance was placed on visual aspects such as surface quality and therefore post weld rework was not necessary, pulsing was much slower than with a conventional short arc or spray arc. But now that is a thing of the past. With the SpeedPulse from Lorch, you can **pulse in the high speed range** without any loss in the pulse quality. Throughout the complete power range. Transition/mixed arcs belong to the past. Immediately faster when used for manual welding and outstanding in automation.



Everything starts with the wire melting

In the matter of welding speed, everything starts with the wire. Each pulse must melt the largest amount of material. While only one droplet per pulse is transferred for the standard pulse process, SpeedPulse achieves an **almost constantly flowing metal transfer** into the workpiece.

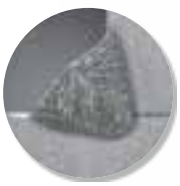

Standard Pulse


SpeedPulse

The benefits of the SpeedPulse

- Greater **cost-effectiveness** due to faster welding speeds, up to 48 % quicker
- All known benefits of **pulsed welding** are still maintained
- **Lower heat input** for:
  – better weld quality and integrity
  – minimal (angular) distortion
  – minimal dilution of the filler wire alloying elements
- The SpeedPulse arc halves the noise exposure because it is approx. **10 dB(a) quieter**
- **Outstanding handling** and visibility of the arc (“needle effect”)
- Better and **deeper penetration depth**


Standard Pulse


SpeedPulse

SpeedPulse INNOVATION

Quality
Made in Germany

With SpeedPulse® up to 48 % faster – an invention by Lorch

The SpeedPulse® of the S-SpeedPulse Series combines the benefits of the spray arc and pulsed arc. The metal transfer is almost flowing, but nevertheless without any short circuits delivering a fine to medium droplet transfer. That means practically no spatter and no rework with maximum welding performance throughout the complete welding current range.

3 steps to achieve weld perfection – the operating concept of the S

1. Select operating mode
2. Wire/gas/material combination
3. Adjust welding current
   (always the perfect setting by synergic function using the material thickness)

Clearly arranged operating panel with plain text display

The power variants of the S-SpeedPulse®

Optional accessories for your S 3 mobile:
Water cooling unit WUK 5 and Mobil-Car

S 3 mobil
320 A

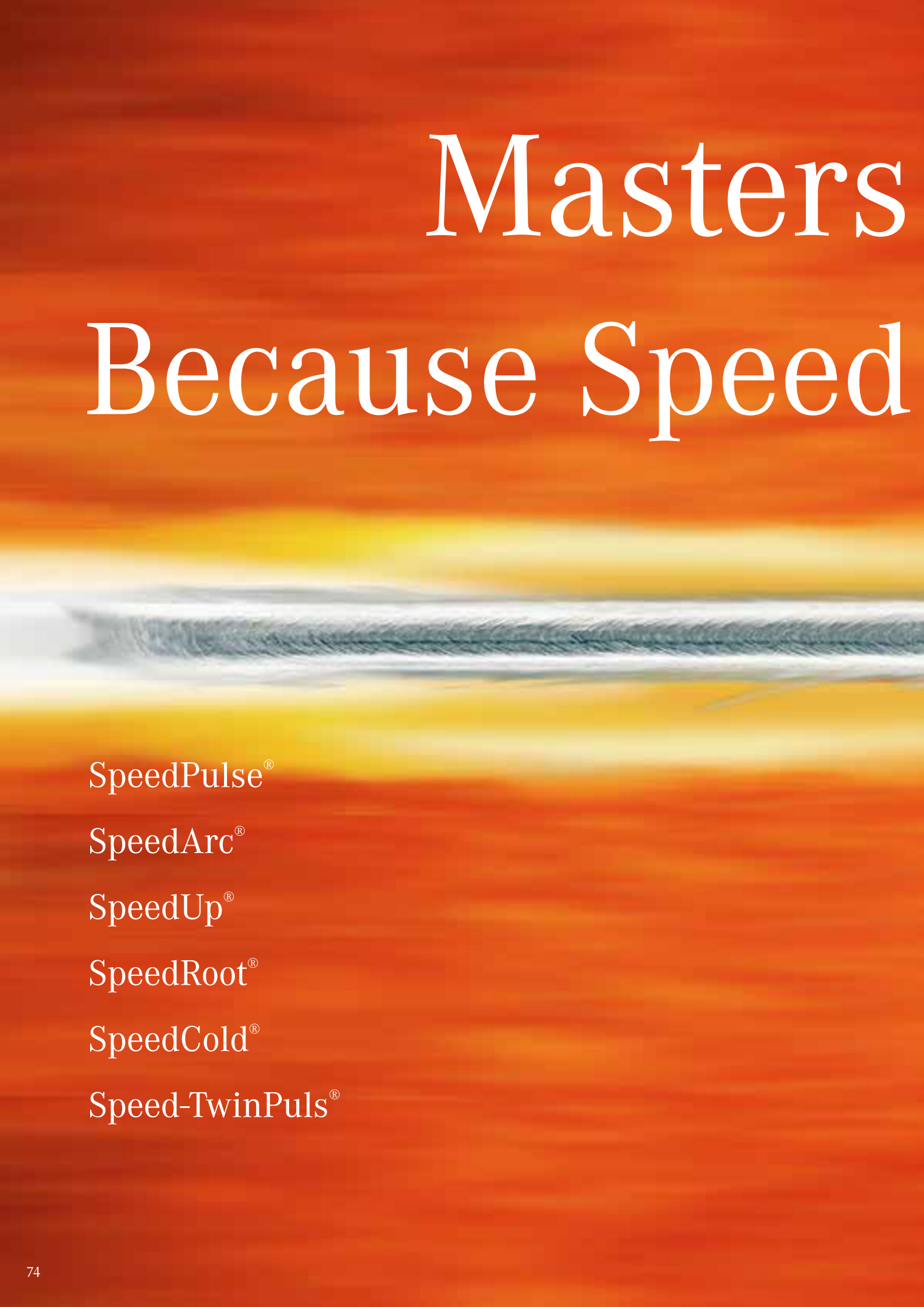
S 3
320 A

S 5
400 A

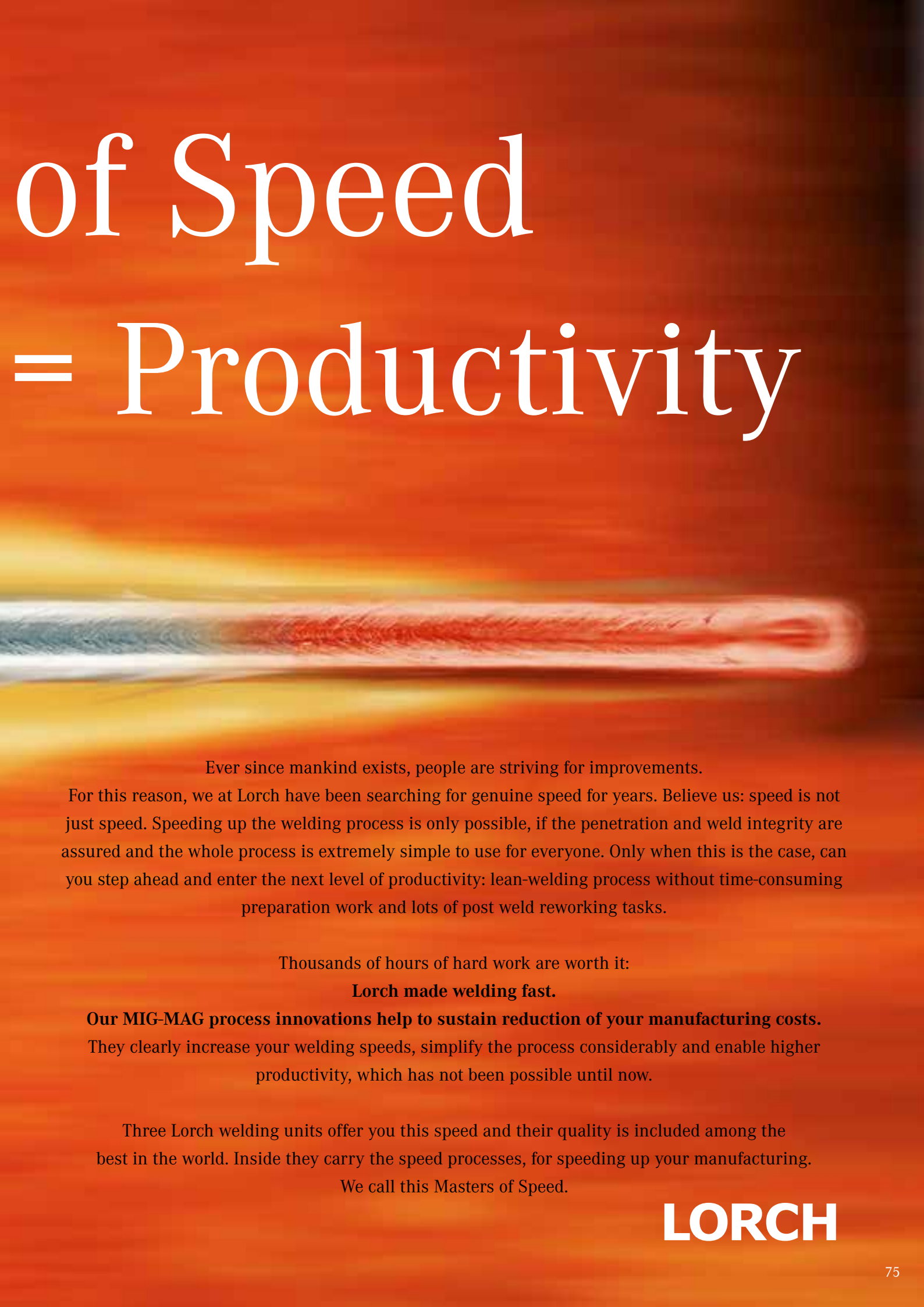
S 8
500 A

Welding range	**S 3 mobile SpeedPulse®**	**S 3 SpeedPulse®**	**S 5 SpeedPulse®**	**S 8 SpeedPulse®**
MIG-MAG	25 – 320 A	25 – 320 A	25 – 400 A	25 – 500 A
Voltage adjustment	Infinitely variable	Infinitely variable	Infinitely variable	Infinitely variable
Welding gases	Gas mixture + CO_2	Gas mixture + CO_2	Gas mixture + CO_2	Gas mixture + CO_2
Welding wires				
Steel Ø in mm	0.6 – 1.2	0.6 – 1.2	0.6 – 1.6	0.6 – 1.6
Alu Ø in mm	1.0 – 1.2	1.0 – 1.2	1.0 – 1.6	1.0 – 2.4
CuSi Ø in mm	0.8 – 1.2	0.8 – 1.2	0.8 – 1.2	0.8 – 1.2
Practical duty cycle at 25 °C ambient temperature				
Current at 100% duty cycle (25 °C)	280 A	280 A	350 A	500 A
Current at 60% duty cycle (25 °C)	320 A	320 A	400 A	500 A
Duty cycle I max. (25 °C)	75%	75%	75%	100%
Standard duty cycle measured according to German quality standard DIN EN 60974-1 at 40 °C ambient temperature				
Current at 100% duty cycle (40 °C)	250 A	250 A	320 A	400 A
Current at 60% duty cycle (40 °C)	280 A	280 A	350 A	500 A
Duty cycle I max. (40 °C)	40%	40%	50%	60%
Machine				
Mains voltage	3~400 V	3~400 V	3~400 V	3~400 V
Permitted mains tolerance	+/–15%	+/–15%	+/–15%	+/–15%
Mains fuse, delayed action	16 A	16 A	32 A	35 A
Dimensions in mm (L x W x H)	812 x 340 x 518	1116 x 463 x 812	1116 x 463 x 812	1116 x 463 x 812
Weight	34 kg	92.8 kg	97.3 kg	107.3 kg
Extras				
EN 1090/WPS booklet	○	○	○	○

○ optional


Masters
Because Speed
SpeedPulse®
SpeedArc®
SpeedUp®
SpeedRoot®
SpeedCold®
Speed-TwinPuls®

# of Speed = Productivity



Ever since mankind exists, people are striving for improvements.
For this reason, we at Lorch have been searching for genuine speed for years. Believe us: speed is not just speed. Speeding up the welding process is only possible, if the penetration and weld integrity are assured and the whole process is extremely simple to use for everyone. Only when this is the case, can you step ahead and enter the next level of productivity: lean-welding process without time-consuming preparation work and lots of post weld reworking tasks.

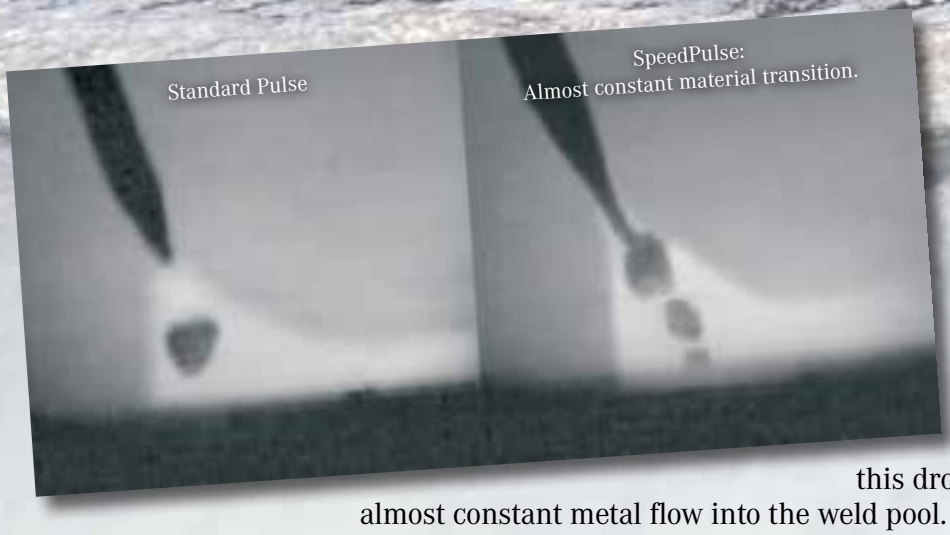
Thousands of hours of hard work are worth it:
Lorch made welding fast.
Our MIG-MAG process innovations help to sustain reduction of your manufacturing costs.
They clearly increase your welding speeds, simplify the process considerably and enable higher productivity, which has not been possible until now.

Three Lorch welding units offer you this speed and their quality is included among the best in the world. Inside they carry the speed processes, for speeding up your manufacturing.
We call this Masters of Speed.

LORCH

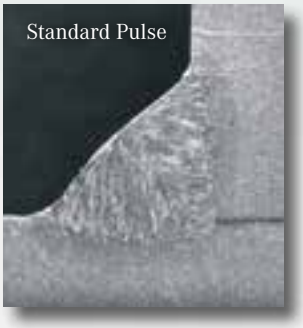
And speed becomes productivity.

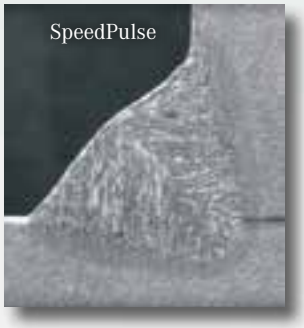
Added value with each meter and



SpeedPulse. Up to 48 % faster.

The key to higher speed is to increase the filler wire melt off performance. Until now, one pulse has always been one droplet. However, our process specialists found ways of enlarging this drop, thus permitting a controlled, almost constant metal flow into the weld pool.
The leading droplet, which is pulsed, is always then followed by a second, controlled metal transition in spray arc form. This “gain” of material clearly shows its effect: more speed. Immediately faster when used for manual welding and outstanding in automation. 30 % faster with stainless steel and up to 48 % with steel. Always giving superb quality traditionally associated with pulse and remarkably easier to use for the operator.





Deeper penetration – harder, and less noisy.

Only if the root is captured perfectly, will the weld seam be sound and long lasting. The SpeedPulse of the S proves its ability with high quality weld seam appearance and excellent fusion characteristics, Deeper and stronger. which is also especially ideal for aluminium as you get far less porisity. SpeedPulse is much quieter. Up to 10 dB(a) infact. Therefore, reducing the strain on your ears by half and optimizing your concentration for producing a really great welding seam.

Lorch SpeedPulse

each layer of welding seam.

SpeedPulse. Easier welding and less reworking.

The stability of the arc proves: SpeedPulse makes the handling of the weld pool easier.

No need for
a transition / mixed arc.

SpeedPulse.
Virtually spatter free.

A pointed wire end, allowing the arc energy to be focused directly into the weld throughout the entire current range. As in the case with standard MIG-MAG welding filler wire spools no longer need to be changed depending on material thickness to be welded. No unnecessary changes of wire spools. For example you can weld 1.0 mm metal sheets with 1.2 mm filler wire and weld smoothly and without interruption – up to the maximum current range. SpeedPulse also makes the complete process colder. This is highly visible by the temper colours when welding stainless steel. It is possible to weld the required seam faster and with less distortion. For each day this means that many more meters of weld can be achieved. Without loss of time due to changing of wires and post weld re-work – you've got SpeedPulse.

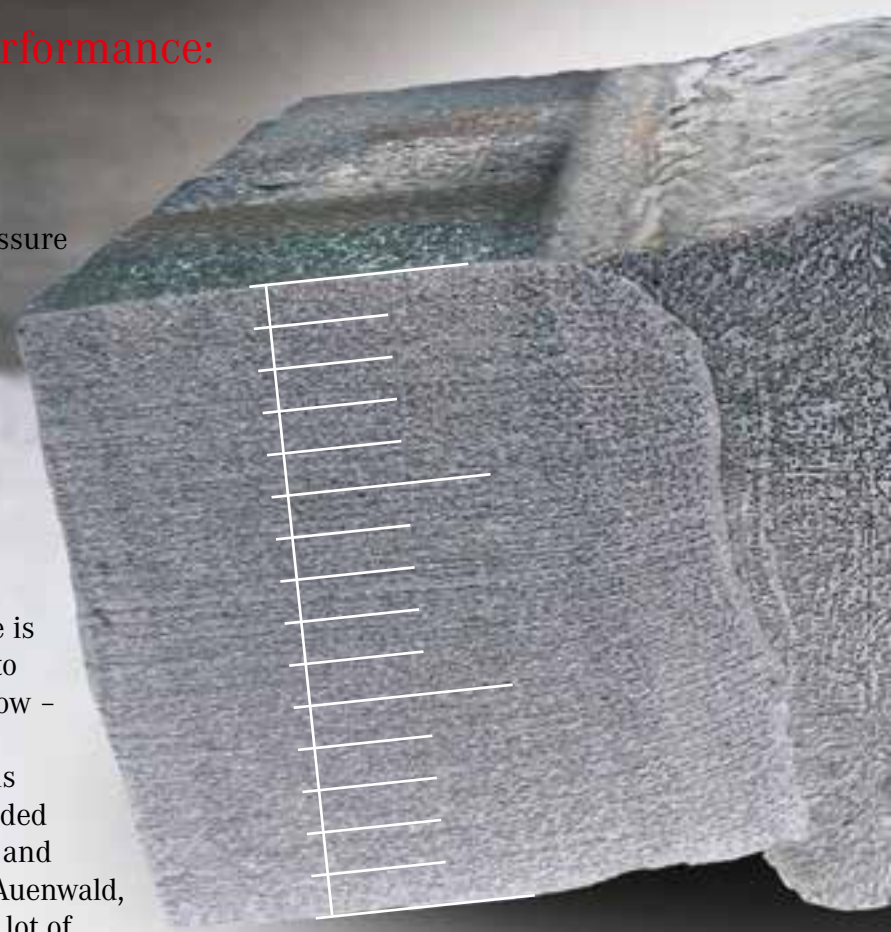
SpeedPulse. Ideal especially for steel. As time is money.

You weld in order to earn money and ... to comply with terms. So why do you not pulse weld with steel? Even with steel, SpeedPulse is clearly better and simpler to master. You also pulse with stainless steel and aluminium. Yes, you'll agree – this is right, but with steel, pulsing is slower than MIG-MAG. This is not longer true! SpeedPulse is one of the best processes in the high-speed range. More power, more speed advantage. You must try it. With total pulse quality. SpeedPulse also for steel. SpeedPulse for your manufacturing.

And welding becomes a lean
Up to 15 mm steel can be done

For maximum MIG-MAG performance: Up to 30 % faster.

SpeedArc is considerably more focused. It has a much higher energy density and, consequently, generates a greater arc pressure that flows into the weld pool. The result is impressive as it makes MIG-MAG welding up to 30 % faster.

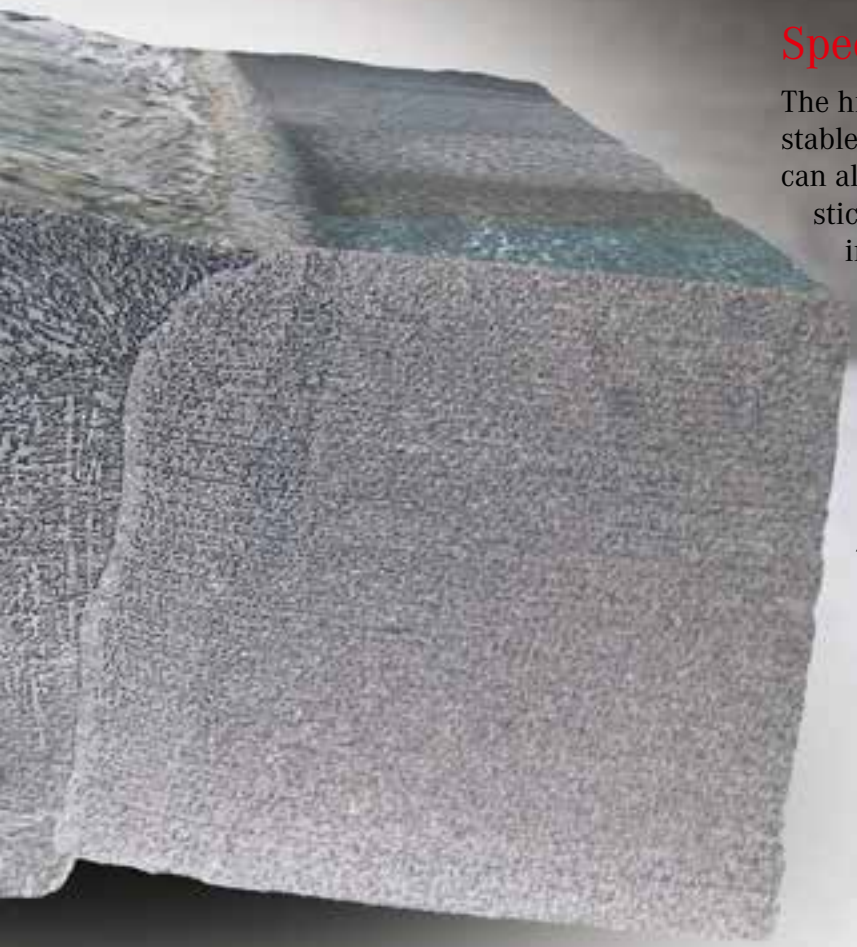


Even 15 mm in just one layer become possible.

SpeedArc is MIG-MAG-Max. But not only its speed makes it more productive. There is also the fact that components which had to be welded in several passes before, can now – due to the Lorch SpeedArc – be joined in one single pass, up to 15 mm thick. This is productivity that pays off; this is value added welding. How the whole process works is and remains a secret of our engineers here in Auenwald, but you can be sure that it can save you a lot of money and help to get a lot of your delivery dates under control.

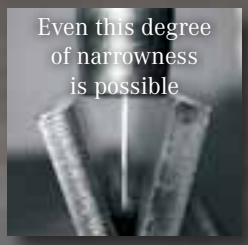
Lorch SpeedArc

process.
in just one pass.



SpeedArc. Ideal for narrow gaps.

The highly concentrated, stable arc of the SpeedArc can also be used with long stick out for welding into narrow joints.



SpeedArc saves material.

Large weld prep angles are now a thing of the past. 60° is no longer necessary, 40° is already sufficient for SpeedArc.

SpeedArc higher quality.

With SpeedArc, penetration into the parent material is visibly better compared to ordinary MIG-MAG units.

Vertical-up welders become
Vertical-up welding has never

Vertical-up welding? Was difficult in the past.

The perfect vertical-up welding seam was an “award”. The necessary triangle or Christmas tree movement of the hand was a technique only mastered by experts. The material must not be too cold; the root must be good and was only achieved with great care. With a certain reverence, these men were called Christmas tree welders, because there was no other possibility to weld vertically upwards successfully. However, this technique was almost as slow as the tree itself growing, and deadline pressure often was an own goal.
So it was logical that some of our engineers searched for a simplification. They have found it. The honour is now ours.

SpeedUp – the “simple” vertical welding process has been invented.

The trick is the combination of two processes or better two arcing phases. The first one: the “hot” phase with high-energy insertion is for optimum melting of the material. Due to the perfect arc regulation you proceed from this phase without any transition and therefore virtually spatter-free into the other one: the “cold” phase, with reduced energy insertion for an exactly dimensioned weld seam. This phase also ensures good penetration and exact “a”-measurement dimensions. It sounds simple and it really is. Because even semi-skilled welders master the SpeedUp process in a very short time. With excellent root penetration, they also now weld vertically up in an easy and skilful manner.

Classical vertical-up welding
(Christmas tree/triangle method)

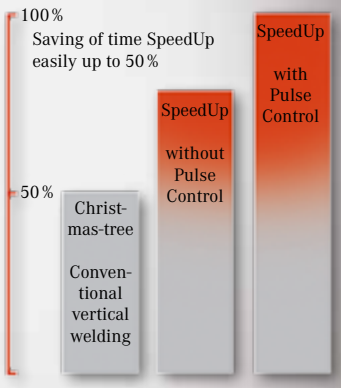
Lorch SpeedUp

turbo welders. been so easy or fast

The ingeniously easy SpeedUp

SpeedUp speeds up.

If you hammer a oversize hole in a wall just in order to lay a thin cable, you will need a lot of time to plaster it up again. This was also the case for vertical welding. Until now! SpeedUp by Lorch works in a much more precise way: Like a small, exact hole in the wall which is then re-plastered fast as the wind, the “a”-measurement is applied as precisely as possible on metal sheets of up to 12 mm.
The concentrated SpeedUp arc is practically twice as fast with steel and stainless steel and is made possible by the precision and the high-end control technique of the Lorch units. For Lorch P Series, SpeedUp is approx. 60 – 80 % faster, an enormous progress for everyone welding a vertical seam. And for those using a Lorch S-SpeedPulse are up to 100 % faster. SpeedUp with PulseControl.



MIG-MAG vertical welding also with aluminium? And round the corner?

You think that this is not possible with a conventional MIG-MAG unit? You’re right. But the Lorch P Series is MIG-MAG Max, it really works with it. The welded seam is almost as perfect – as it is with TIG – also with steel and stainless steel. In addition, the Powermaster remote control torch and the Tiptronic memory for your welding jobs. Just a keypress from horizontal weld to the vertical position and back again. No more time-consuming running between the unit and the workpiece.
This is productivity. SpeedUp your work.

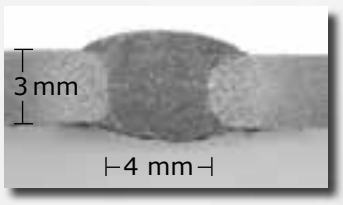
It also works with MIG-MAG
Top gap bridging and optimum

MIG instead of TIG for root welds.

Previously the main requirement of root welding, was joining both edges of the material perfectly and as free from pores as possible, therefore there was previously a simple practical formula: root = TIG. That was just as simple as it was slow. Thus not surprising that electrode holders or MIG-MAG torches are used again for subsequent intermediate and final passes. However, why not already use a faster process for the root? The counter argument was clear: The root weld needs to be perfectly shaped. The high-quality required for the root weld on the interior of pipes, very often made the use of other processes not possible. Not possible? The Lorch process specialists were not satisfied with this. Their response: SpeedRoot. A MIG-MAG process which combines a weld quality similar to TIG with the speed benefits associated with the MIG-MAG process.

Stay cool is the motto.

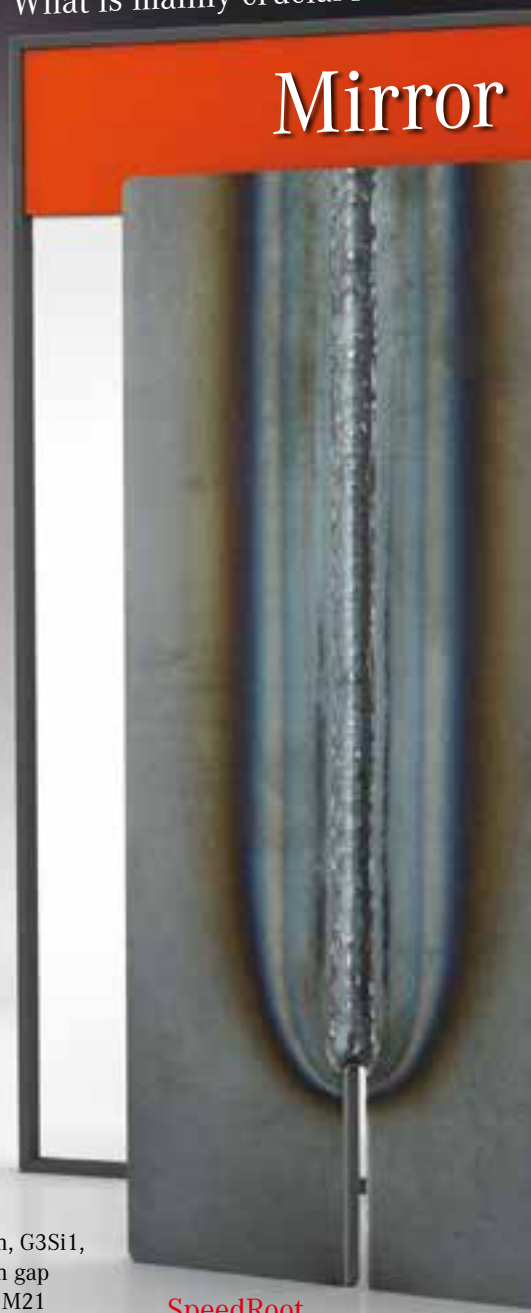
When MIG-MAG was thought of for root welding, the short arc was previously thought to be the way to go, but with as little energy as possible. Unfortunately, the current and voltage increase so quickly during the short circuiting in the process that the material is transferred almost explosively. The weld pool falls through or the weld is pressed through the gap too heavily and irregularly. However, if the energy is simply reduced, there is quickly the danger that the weld is no longer sufficiently formed and the edges captured.
SpeedRoot applies here particularly: high-end control technology ensures a “cold” material transfer with an intended energy reduced short circuit resolution afterwards. The clear target: not a grain of energy too much. Only exactly the level of current and voltage that guarantees the high speed process stability and ensures a perfect, slightly rounded weld appearance. For maximum gap tolerance and gap bridging.



Optimum, slightly rounded weld appearance, without fusion defects.

What is mainly crucial for root wel

Mirror



3 mm, G3Si1,
4 mm gap
with M21

SpeedRoot
Weld front side

Lorch SpeedRoot

for the root.
weld pool control.

ding is what is otherwise not seen.

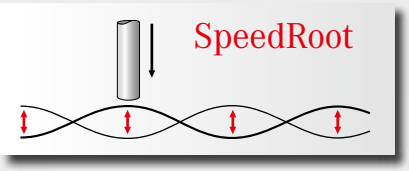
of truth

SpeedRoot
Weld rear side

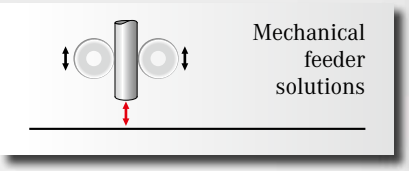
The perfect wave.

High speed video:
SpeedRoot in horizontal position

The process timing of the Lorch SpeedRoot is the decisive factor. The highlight: SpeedRoot, depending on the welding position, also uses the wave movements of the weld pool to support the droplet transfer and to significantly reduce the energy input. The effect produced in doing so is in principle comparable with the effect which occurs during active forward and reverse of the wire for reversing feeder systems. As SpeedRoot functions are purely controlled by the processor and does not need any expensive additional hardware or complex and heavy torch solutions, significant application and cost benefits emerge.



Process with targeted exploitation
of the weld pool oscillation



Process with reversing
wire feeder

Ingeniously simple.

Easy operation and perfect handling are the key to maximum productivity. Whoever has bridged a 4 mm gap on 3 mm sheets using SpeedRoot without weaving and has produced an optimum weld appearance in doing so will no longer want to weld differently. If you think that does not work, simply try it out. At best, also straightaway with an 8 mm gap because the optimum weld pool control provided by the SpeedRoot also lets you perform the weaving movements easily and effortlessly. And, in addition to the simplicity of the welding process, the fact you can do this approximately three times faster than TIG welding provides a quantum leap. Root welding has never been so productive.

Lorch's "cold" process. Perfectly
For low-spatter and highly pro

Steel and stainless steel – weld thin sheet metal about 40 % faster.

The daunting challenge you face when trying to optimise thin sheet metal welding is arc control. Reducing the energy input is fast and easy, but the application of such a "cold" procedure will definitely show: you will end up with numerous places of sticky spatter and reduced arc stability. This will make it necessary for you to spend a great deal of time on rework. We can understand that this is not your definition of productivity. It is not ours, either. This is why Lorch's engineers and welders were not satisfied to quickly launch a half-baked process that reduces energy input by somewhat. Instead, they focused on optimising their designs time and again until they finally reached their objective: developing a thin sheet metal process that fully satisfies the requirements of our customers. This design makes it possible for you to sustainably increase your productivity across a wide range of applications – with speed gains of up to 40 % and in a quality that wins over even the most hands-on welder.

I-seam, CrNi t=1.5 mm, root gap = 1.2 mm

A speed gain of up to 40 %

SpeedCold: Wire feed 6.0 m/min, Welding speed 62.3 cm/min

Short arc: Wire feed 4.3 m/min, Welding speed 42.4 cm/min

Standard short arc welding
Corner seam, PG, S235 t=3.0 mm
Wire feed 4.0 m/min, rapidly advancing weld pool that is about to drop off

SpeedCold
Corner seam, PG, S235 t=3.0 mm
Wire feed 4.0 m/min, welded completely and securely.
Welding speed 35 cm/min

Lorch SpeedCold

controlled energy input.
ductive thin sheet metal welding.

MIG-MAG perfection starts at 0.5 mm sheets.

The conventional MIG-MAG short arc process already exposes its limits when welding 1 mm steel and stainless steel sheets. SpeedCold goes for beyond that. It allows you to weld sheets as thin as 0.5 mm in a reliable fashion and with next to no spattering. And, even if spattering occurs, it is normally not necessary at all to grab your linishing tools. The spatter left behind during SpeedCold welding is generally “cold” enough not to stick to the workpiece surface. A swipe of the glove is all it takes to remove it.

I-seam, CrNi t= 0.5 mm, no root gap
SpeedCold: Wire feed 2.0 m/min,
Welding speed 53.8 cm/min

Perfect for butt, lap and corner weld seams.

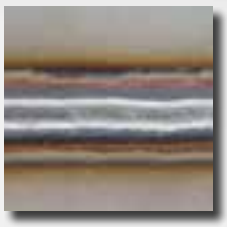
Superior thin sheet metal welding is measured by the quality of the butt, lap and corner weld seams you create. This type of application is exactly the purpose for which Lorch developed SpeedCold. SpeedCold controls every sequence of the process with such accuracy that any changes in the arc are regulated within a matter of milliseconds. This results in an extremely stable arc and exceptional weld pool control. As it offers outstanding seam shaping and gap bridging properties, SpeedCold allows the welder for instance in case of material distortion to react in an optimal way.

I-seam, CrNi t = 0.8 mm, root gap = 0.8 mm
SpeedCold: Wire feed 2.8 m/min,
Welding speed 60.0 cm/min

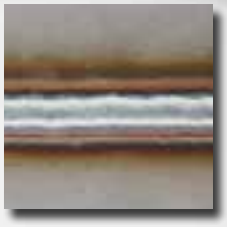
Temper colours reveal the difference.

The heat that is introduced into the workpiece is a decisive factor for the extent of preliminary work and rework necessary to achieve a satisfactory welding result. Lower heat input means less distortion. Fewer tack welds are necessary and preliminary work and rework necessary to mould the material into the desired shape are cut down. Every joule you save puts more money in your pocket. Since SpeedCold in each millisecond puts only so much energy into the process, the heat input is reduced by 25 % when compared to conventional MIG-MAG welding, an important factor in particular for CrNi welding. As CrNi has a lower heat conductivity and tends to deform more easily, the reduced heat input applied by SpeedCold offers substantial practical benefits. You also will experience minimised alloying element melting loss and, consequently, longer lasting corrosion protection even when welding galvanised metal sheets.

I-seam, CrNi t = 1.5 mm, root gap = 1.2 mm



Short arc:
Wire feed 4.3 m/min,
welding speed
42.4 cm/min



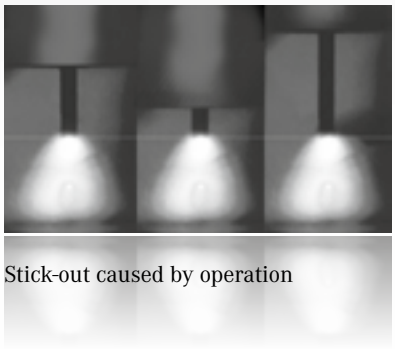
SpeedCold:
Wire feed 6.0 m/min,
welding speed
62.3 cm/min

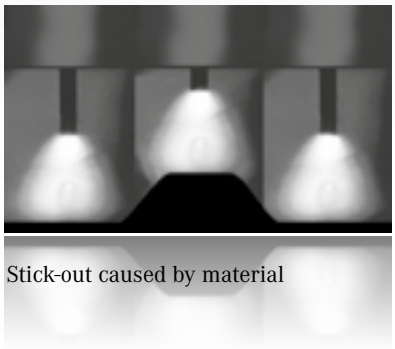
Lorch Speed

The inventor of TwinPuls now
That means the best MIG-MAG

Good, but that's not quick enough for us.

With the invention of TwinPuls, the Lorch process technicians have delivered complete performance. TwinPuls controls specifically and separates the heating and cooling phase. The associated low heat input minimises the delay. Welding in difficult positions is also simpler and more reliable. The weld is absolutely convincing – almost like TIG.


Stick-out caused by operation

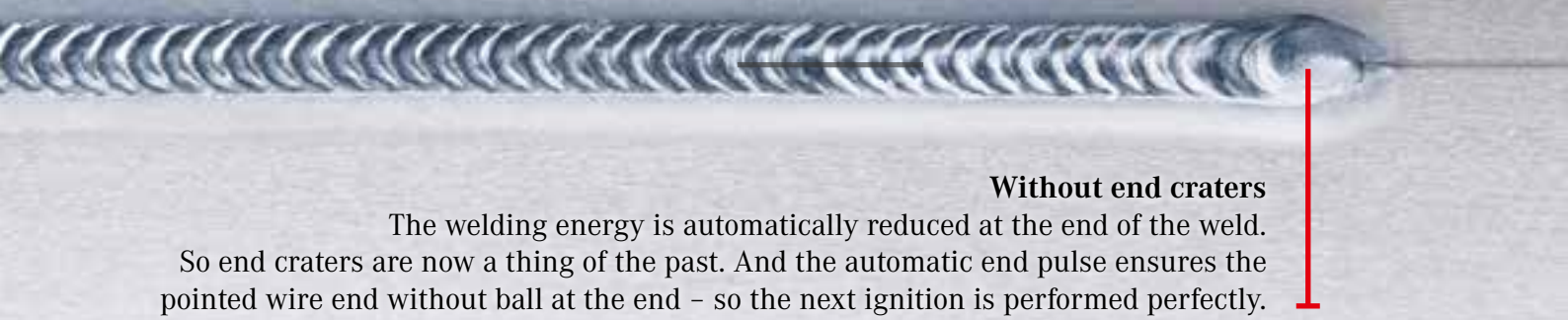

Stick-out caused by material

More speed, but hardly any spatter.

The arc length is a deciding factor for the welding result. Digital arc length control maintains the arc length constantly at all times, and thus ensures an optimum weld quality if there are deviations in the workpiece. And also with the Speed-TwinPuls, deviations are recognised and compensated in fractions of a second. Various stick-outs and changes in seam position can therefore be managed better. Simply, that means more security for your weld.

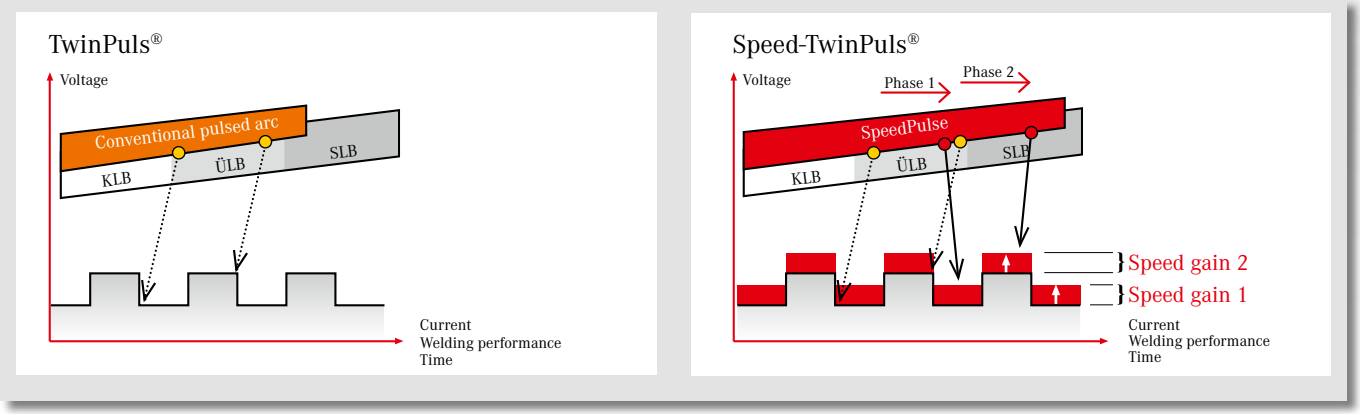
-TwinPuls

presents Speed-TwinPuls.
welds at the maximum speed.

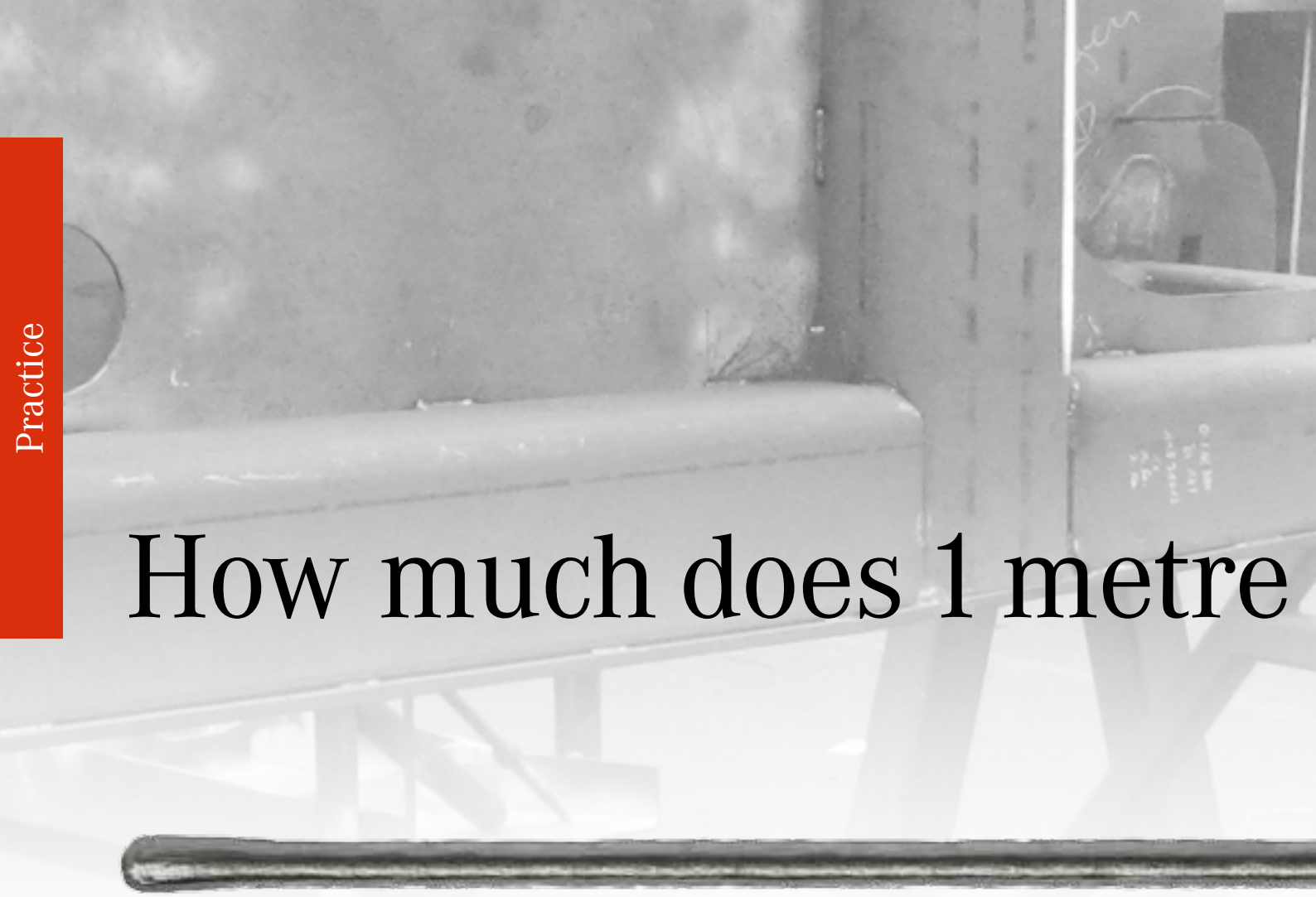


Without end craters
The welding energy is automatically reduced at the end of the weld. So end craters are now a thing of the past. And the automatic end pulse ensures the pointed wire end without ball at the end – so the next ignition is performed perfectly.

As good as ever – "just" quicker.



True enough, TwinPuls is ideal for processing aluminium, and in practice is also of great benefit in processing CrNi materials. But now we have upped the ante, and that's with a big increase in productivity. Thanks to the combination of TwinPuls with the SpeedPulse process patented by Lorch, you now increase the welding performance from TwinPulsing. The result is called Speed-TwinPuls. **So you'll be welding 20 to 30 % faster.**

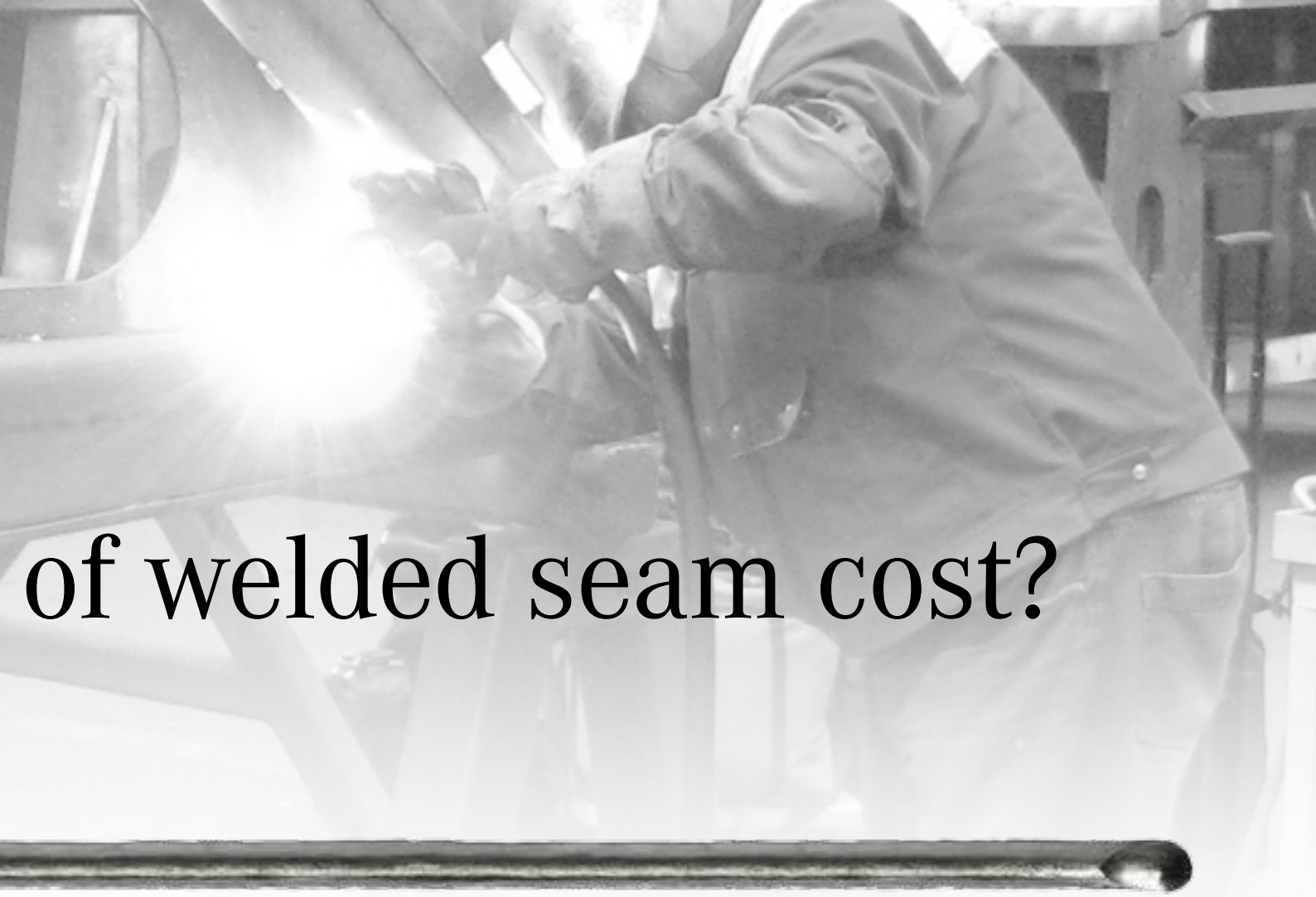


How much does 1 metre

Labour costs

76 cm of the costs are decided by wages.

True, Lorch products are not cheap, but they are tremendous “Value” for money. Because we help you to save. In particular, where you can benefit the most: your productivity. Do more in a shorter time, with less rework, and with optimum weld quality: that reduces the labour costs. Combined with a guarantee that sets standards, this makes your investment pay for itself rapidly.

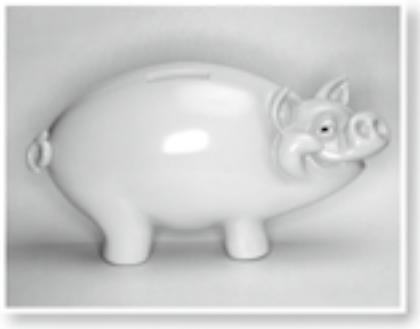


# of welded seam cost?

Gas	Current	Wire	Plant
9 cm	4 cm	6 cm	The welding unit costs only 5 cm. Purchase, depreciation, interest.

Only 5 cm for the welding unit? That's something we all have to think about. Compared to wages and auxiliary materials, the purchase of a new welding unit makes up only a small portion of your overall costs. Yet everyone looks at the price of the machine, and forgets the after cost. Especially the wage costs, which take off drastically as a result of an unsuitable, cheap welding unit. Please consider: At Lorch, we build our welding machines only for everyday, practical use, and so we make them truly productive.

Working time after a close look. As a rule a good skilled welder works 1,907 hours per year. Now, if he has to use a "average" welding unit, which reduces his working efficiency by only 8 %, then that is a loss of 152.56 hours. If we now assume an hourly rate of 17.90 €, then that is 2,730.80 € per year. Because such welding units are usually written off over five years, that costs you a huge 13,654.00 € more. Now you understand one of the typical Lorch principles. We invest all of our energy into the productivity of our customers. You should do the same, by investing in the right welding equipment. By deciding on a unit from Lorch.



The Lorch NanoFeeder

The innovative MIG-MAG PushPull solution for greater range and maximum degrees of freedom.

From Push-Pull to the NanoFeeder.

The wire feeder unit of the MIG-MAG welding power source is combined with other, separate wire-feed systems for the push-pull principle. The NanoFeeder takes over the role of an intermediate drive. It is a full wire feeder – but in a revolutionary Nano format. The Lorch welding power source takes over the matching of the wire feed systems automatically, using the optional, digital Push-Pull controller. This completely eliminates the need for a complex and, more importantly, expensive additional external controller.

The diameter of the NanoFeeder in the gas-cooled variant is only 92 mm. With the optional plastic coating for the protection of the torch water-cooling cables, the maximum external dimensions are only 10.5 cm.

Advantage NanoFeeder.

In contrast to conventional intermediate drive and case solutions, the NanoFeeder is much lighter and smaller. The extremely compact design is exceptionally light and easy to use. The unit which is very robust can simply be pulled along.

The NanoFeeder system is particularly suitable for continuous use. The welder does not have to handle large feeder systems and heavy push-pull torches. The welder simply uses his light and easy to handle standard torch. Another plus point: The NanoFeeder can also be used in combination with Lorch Powermaster torches. Including remote control technology directly at the torch.

How far would you like to go – with

Depending on the welding process and the wire used, the maximum range of the system is up to 50 m. The NanoFeeder itself is available for gas and water cooled torches in lengths of 10, 15, 20 or 25 m, this is in addition to

NanoFeeder

Ingeniously simple – simply ingenious.

The NanoFeeder is probably be best compared to an extension cable. On the one hand, it does not restrict the welder's freedom of movement and on the other hand it increases his working range enormously. With its diameter of only 10.5 cm, it even passes through narrow openings and generally increases the welder's mobility on the workpiece.
When using the NanoFeeder, the benefits of the innovative Lorch **Powermaster torch technology** are also completely utilised. The time consuming moving between machine and workpiece to achieve the optimum setting of your welding system is completely unnecessary. Because with the Powermaster torch technology, you regulate all important welding parameters directly at the torch.

Suitable for combination with Lorch Powermaster remote control torch technology

Quality without compromise.

Where the NanoFeeder is used, full quality is required. The NanoFeeder components satisfy the most demanding requirements and ensure a long service life. The case is made of special, glass-fibre reinforced plastic. Inside, the finest technology is at work: Precision transmission and high-quality motor which are normally used in robotics and aerospace, e.g. in the Mars Global Surveyor. Additionally, all pressure and tension clamps are made of high-strength, anodised aluminium for extremely great tensile strength and optimal corrosion resistance.

your MIG-MAG torch?

the base range of the MIG-MAG torch.
To bridge greater distances a separate wire feeder case can also be used.

up to **50 m** Range and Precision

Torch

pull

NanoFeeder

up to 25 m.

up to 5 m.
(Aluminium, max. 3 m)

The MIG-MAG PushPull solution
For simply much more range.

The wire feeder unit of the MIG-MAG welding power source is combined with an automatic pull system in the torch for the push-pull principle. In this way, feeding ranges of 8 m are possible even for soft aluminium wires. When using a separate wire feeder even more than 20 m is achievable. With an additional separate intermediate drive, up to 43 m overall distance between power source and welder can be bridged – with absolutely reliable and precise wire feeding. An exact synchronisation of the wire feed units involved is crucial for a faultless welding process. The Lorch welding power source takes care of this synchronisation using the optional Push-Pull facility. In this way the complex and also costly, additional external controller is completely unnecessary.

LorchPP – Standard Push-Pull Controller

With the analogue controller, the wire feeder of the welding power source and the independent pull system in the torch are permanently matched with each other. The parameters are permanently based on the welding process. This Push-Pull controller option is not torch-specific and has a maximum range including case hose package of 28 m.

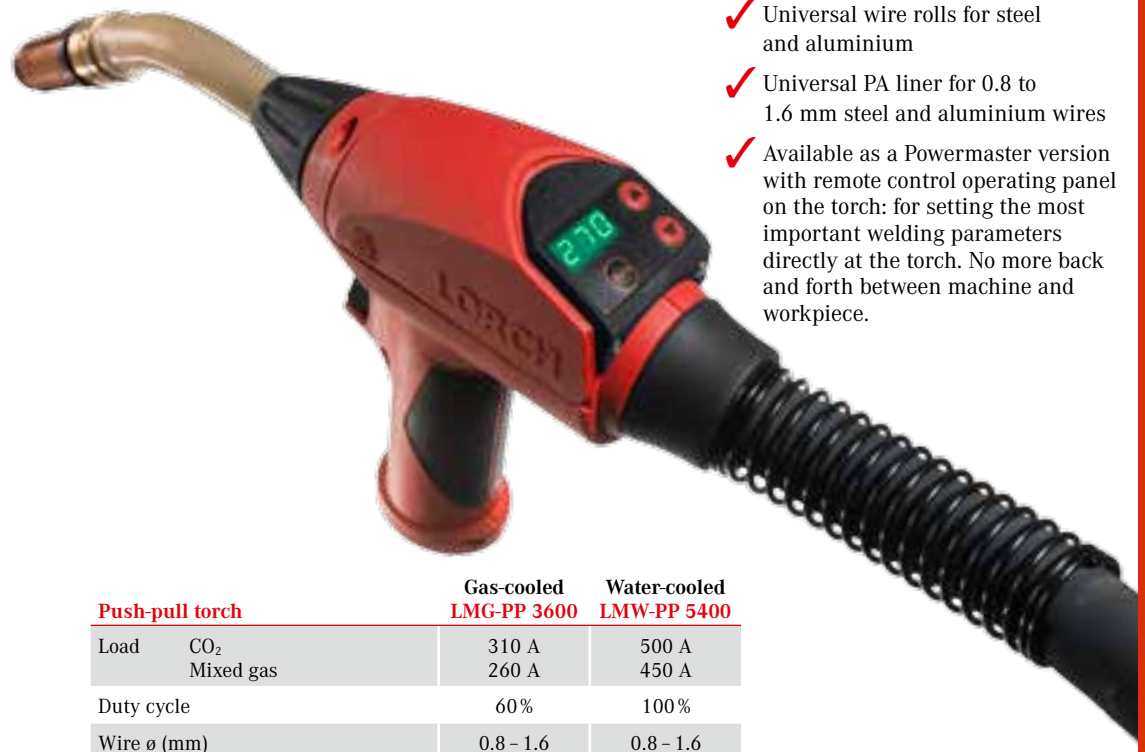
LorchDigiPP – Fully digital Push-Pull control for maximum precision

The wire feeder units used are exactly synchronised. The synchronisation is monitored during the welding process and deviations are automatically adjusted. The digital Push-Pull facility can control up to three feed units and can therefore be used as pure Push-Pull version (with 28 m maximum range) or as Push-Pull with intermediate drive for up to 43 m ranger. The completely digital Push-Pull control provides optimum results for the given torch. The result is impressive.

How far would you like to go – with

Push-pull torch of the latest generation.
Lighter, more ergonomic, and more powerful.

- ✓ Torch necks can be rotated and replaced
- ✓ Universal wire rolls for steel and aluminium
- ✓ Universal PA liner for 0.8 to 1.6 mm steel and aluminium wires
- ✓ Available as a Powermaster version with remote control operating panel on the torch: for setting the most important welding parameters directly at the torch. No more back and forth between machine and workpiece.



Push-pull torch	Gas-cooled LMG-PP 3600	Water-cooled LMW-PP 5400
Load CO_2	310 A	500 A
Mixed gas	260 A	450 A
Duty cycle	60 %	100 %
Wire ø (mm)	0.8 – 1.6	0.8 – 1.6
Hose package version		
Standard	●	●
With Maxon motor	– –	●
Hose package length	8 m*	8 m*

* additional hose package lengths on request

your MIG-MAG torch?

up to **43 m** Range and Precision

Torch pull

push

Intermediate drive
(optional)

15 m

8 m

Lorch MIG-MAG torches

Gas and water cooled – from 150 A to 500 A.

The MIG-MAG torches from Lorch are ideally suited for use on Lorch welding power sources and therefore guarantee the maximum performance and reliability of the system. The MIG-MAG torches from Lorch provide optimum welding results – The Lorch MIG-MAG torches range are also available in the Powermaster version, which gives the user remote control of the power source directly at the torch handle.

- ✓ Optimum torch cooling
- ✓ Long service life
- ✓ Ergonomic torch handle recess
- ✓ Light and flexible hose packages
- ✓ Optimum handling in all positions
- ✓ Fast torch change due to euro central connection
- ✓ Robust design

MIG-MAG Powermaster torch

Gas-cooled		ML 1500 PM	ML 2400 PM	ML 3800 PM	ML 4500 PM
Load	CO_2 Mixed gas	180 A 150 A	250 A 220 A	360 A 320 A	450 A 400 A
Duty cycle		60%	60%	60%	60%
Wire ø (mm)		0.6 – 1.0	0.6 – 1.2	0.8 – 1.6	0.8 – 1.6
Hose package length (m)		3/4/5	3/4/5	3/4/5	3/4/5

Water-cooled		MW 5300 PM	MW 5500 PM	MW 5800 PM
Load	CO_2 Mixed gas	300 A 270 A	500 A 450 A	500 A 500 A
Duty cycle		100%	100%	100%
Wire ø (mm)		0.8 – 1.2	0.8 – 1.6	0.8 – 2.4
Hose package length (m)		3/4/5	3/4/5	3/4/5

MIG-MAG Standard torch

Gas-cooled		ML 1500	ML 2400	ML 2500	ML 3800	ML 4500
Load	CO_2 Mixed gas	180 A 150 A	250 A 220 A	230 A 200 A	320 A 270 A	370 A 300 A
Duty cycle		60%	60%	60%	60%	60%
Wire ø (mm)		0.6 – 1.0	0.6 – 1.2	0.8 – 1.2	0.8 – 1.6	0.8 – 1.6
Hose package length (m)		3/4/5	3/4/5	3/4/5	3/4/5	3/4/5

Water-cooled		MW 5300	MW 5500	MW 5800
Load	CO_2 Mixed gas	300 A 270 A	500 A 450 A	500 A 500 A
Duty cycle		100%	100%	100%
Wire ø (mm)		0.8 – 1.2	0.8 – 1.6	0.8 – 2.4
Hose package length (m)		3/4/5	3/4/5	3/4/5

New torch holders.

The new torch holders from Lorch for MIG-MAG welding systems increase workplace safety and efficiency. They help to keep the torch always ready to hand and stored safely. Accidental button presses, damage to the torch or damage due to hot gas nozzles are now things of the past. The torch holders are available either for left-hand or right-hand side mounting for the M-Pro, C, P, S and S-SpeedPulse Series systems.

Productivity by the push of a button
Machine control directly at the torch

What others are still dreaming of is already a standard for Lorch. For all newer MIG-MAG devices, you have the opportunity to use the innovative Lorch Powermaster technology. You can access all important parameters with this directly using the control panel at the torch. The time consuming moving between machine and workpiece for parameter optimisation can be eliminated. Even complex welding tasks where different weld seams have to be repeatedly produced can be perfectly controlled and replicated with the remote control torch. You simply call up all required work values one after the other from the Tiptronic job memory.

Remote control operator panel

- **Display:** Display of the welding current, material thickness, wire feed speed or arc length correction (identical to the digital display of the power source).
  The current job numbers are displayed when Tiptronic mode is activated.
- **Rocker switch:** For changing the various welding parameters.
  And for changing the jobs in Tiptronic mode.
- **Mode button:** For changing between the various welding parameters.
  For selecting the job set in Tiptronic mode.

Tiptronic

A workpiece with different weld seams must be produced repeatedly. Using the Tiptronic facility, you simply save the ideal setting for each weld in the required sequence. And then call up to 100 work values one after the other from the machine memory directly at the workpiece. Compromise welds? Not anymore!

The Lorch TIG range

TIG

The Handy TIG-Series

Simply easier to achieve a professional TIG result.
Especially for the use on construction site.

Professional TIG welding quality in DC or AC modes does not have to be complicated. The portable **TIG-Inverters** of the Handy TIG Series show how easy it is: switch on and weld! The knowledge of the world's best welders is immediately available from the machines database. The arc is continuously monitored and optimised during the welding. Almost everything is automated and relieves the welder from lots of setting options. The operation is **extremely easy and intuitive.** Ideal for anyone who does not work every day with a TIG machine and yet still require first-class welding results. All TIG functions that are really required are of course included as standard.
The Handy TIG with remote control connection **non-contact HF ignition** is impressive and ensures welds without tungsten inclusions.

The **automatic gas pre-flow and post-flow** protect the tungsten electrode and weld-pool against oxidation. The **secondary current function** prevents problems in the case of overheating of the workpiece. Pressing a button is enough; the welding current is reduced immediately, the weld pool cools down and you continue welding. the **final current reduction** reduces the current during extinguishing of the arc for a clean end of the weld seam – without crater formation.

The Handy TIG Series at a glance

- ✓ Outstanding TIG weld characteristics
- ✓ High, practical duty cycle
- ✓ Extremely robust, guaranteed fall protection from up to 80 cm height (DC) and 60 cm (AC/DC)
- ✓ With non-contacting HF ignition (can be changed over to ContacTIG)
- ✓ Automatic gas management
- ✓ Connection for hand or foot remote control
- ✓ Electrode welding with Hotstart, Anti-Stick and Arc-Force regulation
- ✓ Compact and light in weight
- ✓ InsideCoating: optimum dust protection for a long service life
- ✓ Full power even in the case of voltage fluctuations and when using long cables
- ✓ Generator-compatible
- ✓ Highly efficient and low energy consumption due to the most modern power electronics and the fan on demand function
- ✓ "3 steps to weld" operating concept
- ✓ Manufactured and tested according to DIN EN 60974-1, with CE mark, S-symbol and IP 23

Additional in the ControlPro

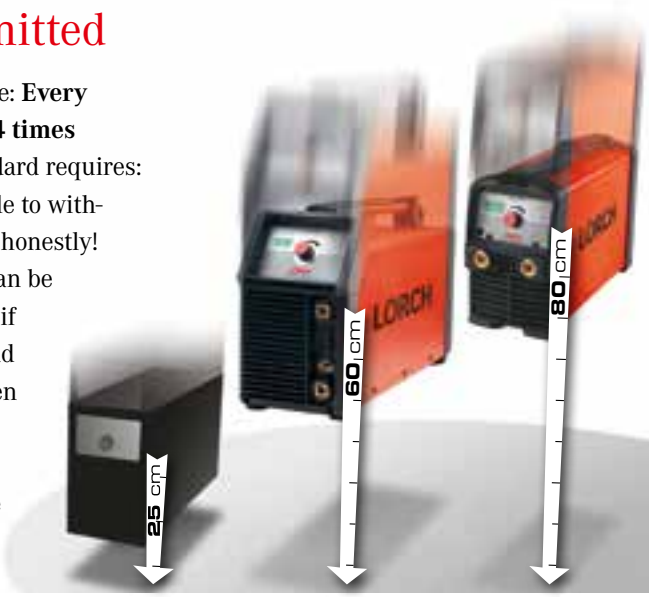
- ✓ Exact-amp, digital welding current display
- ✓ Job memory for up to 4 welding tasks (2 x TIG, 2 x electrode)
- ✓ Pulse function: Pulse up to 500 Hz

Additional in the AC/DC

- ✓ Changeover DC to AC
- ✓ Positive polarity ignition and automatic cap shape
- ✓ Pulse function: fast pulse up to 2 kHz
- ✓ ITC-Inside makes it possible to use standard torches as well as the latest, fully digital TIG torch technology including Powermaster remote control

Dropping is permitted

The independent statistics state: **Every machine is dropped at least 4 times during its life time.** The standard requires: a welding machine must be able to withstand a fall of only 25 cm. Yes, honestly! Only that. Only that. But you can be sure that it is higher than that if a machine falls out of your hand or from the workbench and then the machine is usually broken. Not with us; we have designed special crash protection for the HandyTIG: with a **guaranteed fall protection from a height of 80 cm.**



Standard HandyTIG AC/DC HandyTIG DC

A perfect ignition is what counts

The **non-contact HF ignition** provides **welds without tungsten inclusions,** extending the service life of the TIG electrode. The arc is ignited without direct contact to the workpiece using a high voltage pulse.
The HF ignition can be used in any position but can also be switched off at any time when work is carried out in an electrically sensitive area. You then simply continue welding with the optimised Lorch **ContacTIG** (no HF) ignition.

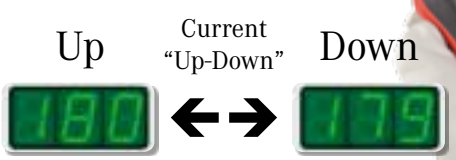
3 steps to achieve weld perfection

1. Switch on
2. Select operating mode
3. Adjust welding current

Also with torch remote control Superb in this class

Versions ControlPro or higher allow you to use the UpDown remote control torch as well as the classic double push button torch. Moving between workpiece and welding machine is in the past. You control the welding current skilfully and easily from the torch.

i-Torch UpDown
Suitable for use with DC ControlPro or greater



Welding current display of your Lorch welding power source

i-Torch Powermaster
Suitable for use with AC/DC ControlPro

Quality Made in Germany

Mobile TIG Talent

With a HandyTIG, you weld stainless steel (DC) and aluminium (AC) easily, skilfully and perfectly from a 230 V mains power supply. A HandyTIG is the ideal working machine for mobile use on construction and is also just as impressive during workshop operation.

Easy handling guaranteed – the operating concepts of the HandyTIG

BasicPlus

1. Switch on
2. Select operating mode
3. Adjust welding current

- ✓ User-oriented guidance using illuminated symbols
- ✓ Infinitely adjustable welding current setting
- ✓ Remote control connection

ControlPro

1. Switch on
2. Select operating mode
3. Adjust welding current

- ✓ User-oriented guidance using illuminated symbols
- ✓ Infinitely adjustable welding current setting
- ✓ Remote control connection
- ✓ Exact-ampere digital display
- ✓ Simple setting of the base parameters
- ✓ Job memory (2 x TIG/2 x electrode)
- ✓ Powermaster remote control torch (AC/DC only)
- ✓ UpDown remote control torch
- ✓ Pulse function

The power variants

The HandyTIG as individual machine or available with an protective case with welding shield and all required accessories. As AC/DC version with large protective trolley case.

HandyTIG 180 DC
180 A

HandyTIG 180 AC/DC
180 A

HandyTIG 200AC/DC
200 A

Welding range	**HandyTIG 180 DC** BasicPlus or ControlPro	**HandyTIG 180 AC/DC** ControlPro	**HandyTIG 200 AC/DC** ControlPro
TIG	5 – 180 A	3 – 180 A	3 – 200 A
Electrode	5 – 150 A	10 – 150 A	10 – 170 A
Weldable electrodes			
TIG Ø in mm	1.0 – 3.2	1.0 – 3.2	1.0 – 3.2
Electrode Ø in mm	1.5 – 4.0	1.5 – 4.0	1.5 – 4.0
Standard duty cycle for TIG welding measured according to German quality standard DIN EN 60974-1 at 40 °C ambient temperature			
Current at 100 % duty cycle (40 °C)	130 A	130 A	160 A
Current at 60 % duty cycle (40 °C)	150 A	150 A	180 A
Duty cycle I max. (40 °C)	30 %	35 %	45 %
Machine			
Mains voltage	1 ~ 230 V	1 ~ 230 V	1 ~ 230 V
Permitted mains tolerance	+15 %/–25 %	+15 %/–25 %	+15 %/–25 %
Mains fuse, delayed action	16 A	16 A	16 A
Dimensions in mm (L x W x H)	337 x 130 x 211	480 x 185 x 326	480 x 185 x 326
Weight	6.5 kg	13 kg	13.4 kg
Operating concepts			
BasicPlus	●	– –	– –
ControlPro	●	●	●
ITC (Intelligent Torch Control)	– –	●	●

The T Series

Exactly how a mobile welding machine for TIG professionals should be.

What was only possible with enormous welding machines of yesterday is handled today in the smallest space with T series technology. Good ergonomics and easy to carry from only 12 kg. Filled with **high end technology.** It is due to the internal values which clearly distinguishes the T from others.
Because what the T now does better is determined by our engineers, welders and process experts. **SmartBase,** the Lorch expert database, perfectly controls the arc. Occasional welders can achieve surprisingly good results with it. And with a T, the professionals show what they can really do! All freedoms for fine corrections are at hand because the **parameter settings can be completely changed if required.**
The T series is, furthermore, equipped with ITC-Inside. This gives you the option of working with a standard torch or employing Lorch's **new TIG torch technology including Powermaster remote control** and display directly at the torch.

The T series is available in all power variants as **DC** and **AC/DC** versions (also if you need to weld aluminium) and provides you with maximum flexibility. On the one hand it impresses as a mobile site unit but also becomes the complete machine solution for workshop and manufacturing operations using the **optional water cooler** and the Maxi-Trolley.

ITC INSIDE
Intelligent Torch Control

The T Series at a glance

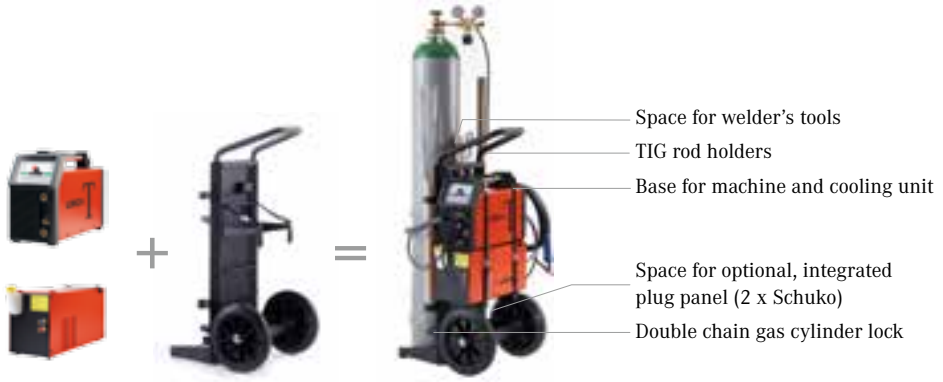
- ✓ Outstanding TIG weld characteristics
- ✓ Complete professional TIG functionality
- ✓ SmartBase expert database regulates the parameters for optimum arc conditions
- ✓ Optionally with water-cooling unit WUK 6 (can be directly adapted to the T housing)
- ✓ Pulse and fast pulse up to 2 kHz
- ✓ Interval spot function for tack welding of thin sheet metal
- ✓ Tiptronic job memory for up to 100 welding tasks
- ✓ Guaranteed protected against falls of up to 60 cm in height
- ✓ Generator-compatible
- ✓ Full power even in the case of voltage fluctuations and when using long cables
- ✓ ITC-Inside makes it possible to use standard torches as well as Lorch's fully digital TIG torch technology including Powermaster remote control
- ✓ "3 steps to weld" operating concept
- ✓ With non-contacting HF ignition (can be changed over to ContacTIG)
- ✓ Electrode welding function
- ✓ Connection for hand and foot remote control
- ✓ High efficiency and low energy consumption due to the most modern industrial electronics and the fan on demand technology
- ✓ Manufactured and tested according to DIN EN 60974-1, with CE mark, S-symbol and IP 23

Additional in the AC/DC

- ✓ Changeover DC to AC
- ✓ Positive polarity ignition and automatic cap shape
- ✓ Lorch MACS special process, increasing the weld quality for thin aluminium sheets

Everything you need, perfectly stowed

It is “the” complete TIG system for your business. You also overcome the most demanding **continuous use** with the water-cooling unit, the WUK 6. The system is quickly fixed and the accessories perfectly stowed on the Maxi Trolley, the stable transport carriage.



The water re-circulation cooling unit,
designed to be placed under the T.

The Maxi Trolley.
The ultimate transport trolley.

More productivity with cold wire feeding

With the ControlPro, the way to automation is open to you. Simply connect the Lorch Feed cold wire feeder using **Plug & Weld** via the **LorchNet** connection and already you replace the manual feed at the filler material. And start producing top TIG quality with optimum speed – even over long working times. We don’t know how to achieve more productivity and quality.

3 steps to achieve weld perfection

1. Select welding process
2. Select electrode diameter
3. Adjust welding current

Quality makes it possible. 2 torches for selection

ITC, intelligent torch control, allows the T series to detect whether a standard torch is connected or whether you wish to work with a Lorch torch of the latest generation, consequently causing the T series to automatically provide the corresponding functionality. If using the i-LTG version or an i-Torch, you will then be able to immediately benefit from the protective features HeatProtect and TorchProtect as well as the productivity-enhancing Powermaster technology including digital display at the torch.

TIG perfection on the move and in your manufacturing operation

With the stable Maxi Trolley, you are flexible and have direct access to everything you need and furthermore you can roll 50 litre cylinders to the construction site yourself. You also overcome the most demanding continuous use brilliantly with the water-cooling unit, the WUK 6.

3 steps to achieve weld perfection – the operating concepts of the T

BasicPlus

1. Select welding process
2. Specify operating mode
3. Adjust welding current

- ✓ User-oriented guidance using illuminated symbols
- ✓ Exact-ampere digital display for welding current
- ✓ Simple parameter adjustment
- ✓ Remote control connection

ControlPro

1. Select welding process
2. Select electrode diameter
3. Adjust welding current

- ✓ User-oriented guidance using illuminated symbols
- ✓ Exact-ampere digital display for welding current
- ✓ Exact digital display for welding voltage
- ✓ Simple parameter adjustment
- ✓ Remote control connection
- ✓ LorchNet for the entry to Lorch Automation
- ✓ Connection possibility for Lorch FEED cold wire feeder
- ✓ Tiptronic job memory for up to 100 welding tasks

The power variants

Trolley type protective tool case:
Your seven items are compact, easily transportable and well secured in this case.

T 180
180 A

T 220
220 A

T 250
250 A

T 300
300 A

Welding range	**T 180** DC or AC/DC	**T 220** DC or AC/DC	**T 250** DC or AC/DC	**T 300** DC or AC/DC
TIG	3 – 180 A	3 – 220 A	5 – 250 A	5 – 300 A
Electrode (DC/AC/DC)	10 – 150 A	10 – 180 A/170 A	10 – 200 A	10 – 200 A
Weldable electrodes				
TIG Ø in mm	1.0 – 3.2	1.0 – 3.2	1.0 – 4.0	1.0 – 4.0
Electrode Ø in mm	1.5 – 4.0	1.5 – 4.0	1.5 – 5.0	1.5 – 5.0
Standard duty cycle for TIG welding measured according to German quality standard DIN EN 60974-1 at 40 °C **ambient temperature**				
Current at 100 % duty cycle (DC/AC/DC)	130 A	160 A	175 A	200 A/180 A
Current at 60 % duty cycle (DC/AC/DC)	150 A	180 A	200 A	250 A/220 A
Duty cycle I max. (DC/AC/DC)	35 %	40 %	35 %	35 %/30 %
Machine				
Mains voltage	1~230 V	1~230 V	3~400 V	3~400 V
Permitted mains tolerance	+15 %/–25 %	+15 %/–25 %	+15 %/–25 %	+15 %/–25 %
Mains fuse, delayed action	16 A	16 A	16 A	16 A
Dimensions in mm (L x W x H)	480 x 185 x 326	480 x 185 x 326	480 x 185 x 326	480 x 185 x 326
Weight	12.1 kg	13.3 kg	16.0 kg	16.0 kg
Operating concepts				
BasicPlus	●	●	●	●
ControlPro	●	●	●	●
ITC (Intelligent Torch Control)	●	●	●	●

The T-Pro Series

This is how TIG welding is done today. Industrial-grade TIG quality in a compact, mobile case.

The T-Pro series stands for **professional TIG welding that produces industrial-grade results of superior quality.** You can put your trust in their internal values. The state-of-the-art inverter technology employed by the T series provides the ideal technical platform and reaches new heights of technological advancement in the T-Pro: This model is a **mobile TIG complete system** for your business, optionally gas or water cooled and with **ITC-Inside** (Intelligent Torch Control), which allows the system to employ the revolutionary TIG Powermaster torch technology. This ensures that you will be ready from the start for the revolutionary TIG Powermaster remote control technology and the substantial work-saving capabilities it has to offer. Integrating a digital display and the most important operating parameters directly into the torch handle, this technology lets you enjoy exceptional ease of use and supreme productivity. The high-quality system also manages to impress with excellent welding characteristics, a robust industrial design, optimal operator ergonomics and the practically oriented **"3 steps to weld" operating concept,** which produces first-rate results on steel, stainless steel, copper, and aluminium. The cylinder trolley holds up to 50 litre cylinders and provides further proof of the T-Pro's superior sturdiness for use in everyday applications.

Other **convenient features** include the automatic on-demand function, which will switch the fan to standby whenever you interrupt your welding operation, and, thereby, saves energy, and the **memory function** which lets you save welding parameters automatically. **What is more, the built-in LorchNet interface** opens the door for implementing automation and allows you to connect the cold wire feeder Lorch Feed.

ITC INSIDE
Intelligent Torch Control

The T-Pro series at a glance

- ✓ Outstanding TIG weld characteristics
- ✓ Complete professional TIG functionality
- ✓ ITC-Inside makes it possible to use standard torches as well as the latest, fully digital TIG torch technology including Powermaster remote control
- ✓ SmartBase expert database regulates the parameters for optimum arc conditions
- ✓ High efficiency and low energy consumption due to the most modern industrial electronics and the fan on demand technology
- ✓ Gas or water cooled
- ✓ Pulse and fast pulse up to 2 kHz
- ✓ Interval spot function for tack welding of thin sheet metal
- ✓ Tiptronic job memory for up to 100 welding tasks
- ✓ "3 steps to weld" operating concept
- ✓ With non-contacting HF ignition (can be changed over to ContacTIG)
- ✓ Electrode welding function
- ✓ Connection for hand and foot remote control
- ✓ Manufactured and tested according to DIN EN 60974-1, with CE mark, S-symbol and IP 23

Additional in the AC/DC

- ✓ Changeover DC to AC
- ✓ Positive polarity ignition and automatic cap shape
- ✓ Lorch MACS special process, increasing the weld quality for thin aluminium sheets

i-Torch Powermaster.
Control directly at the torch.

The brand new TIG Powermaster torch from Lorch revolutionises the possibilities offered by remote controlling the torch during TIG welding. Anyone who has ever had to work on a large workpiece or has been faced with hard-to-reach positions, forcing them to work several metres away from the system, is familiar with this problem: all this back-and-forth and at times, up-and-down that is needed to find the right amperage level or the proper settings for other important parameters that will produce the perfect seam is annoying.
There will come a point where you just stop bothering. This is not how you achieve professional quality.
Thanks to the TIG Powermaster torch, you will now literally have “a firm grip” on this process as you can control all the functions you need directly using the control panel integrated into the handle. Its patented operating concept makes welding more convenient and ensures maximum productivity during TIG welding. This is because you can control the welding process using the control panel with integrated 7-segment display.

The exact-amp setting of the welding current and the job selection are permanent functions, while a further two LEDs can be reserved for additional customised parameters.
If necessary, you can enable the **TorchProtect function** and prevent your torch from being subjected to a welding current that exceeds its maximum rating, thereby avoiding unnecessary damage to the torch.

3 steps to achieve weld perfection

1. Select welding process
2. Specify electrode diameter
3. Adjust welding current

Only practical use matters

TIG torch holders
The new torch holders from Lorch for TIG welding systems increase workplace safety and efficiency. They help to keep the torch always ready to hand and stored safely. Accidental button presses, damage to the torch or damage due to hot gas nozzles are now things of the past. The torch holders are available either for left-hand or right-hand side mounting for T-Pro, TF-Pro and V-series systems.

Water cooling unit with level gauge
Smart design in every detail. The level gauge built into systems that are cooled by water recirculation makes it a breeze to check the fill level of the coolant. Coolant can be refilled through the filler plug installed at the rear.

The TF-Pro

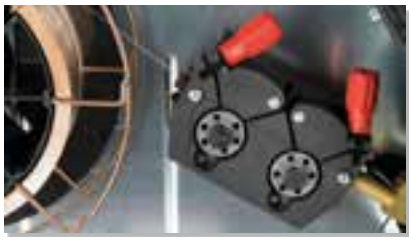
Maximum TIG productivity thanks to integrated cold wire feed.

The TF-Pro is the model of choice if the supply of filler material is required during TIG welding in order to, for instance, bridge gaps and compensate for material tolerances. TF-Pro represents the **perfect marriage of TIG inverter technology and TIG cold wire feed.** As it reliably feeds the filler metal to the weld pool, the fully integrated wire feeder with its **separate, removable operating panel** and special cold wire controller provides for ???. The high-quality 4-roll feed motor with its specially tuned gearbox combination is in charge of feeding the wire in a reliable manner.

The **digital speed monitor** ensures that the rolls will run in perfect sync, which is essential for producing a perfect seam. If the current intensity changes, the automatic setting control will automatically adjust the wire feed speed. The wire outlet, which is pointing down diagonally, combined with the **Fast Connect System (FCS)** of Lorch's TIG cold wire torch ensures that the wires are threaded in easily and unwind in a reliable manner even when made of aluminium.

TIG cold wire feed TF-Pro

Feeder speed	0.2 – 6.0 m/min
Drive/feeder	4-roll/tacho-regulated motor/ digital speed feedback
Pulse frequency	5 Hz



Quality wire feeder with 4 rollers

Resistance-optimised wire guide thanks to angled torch connection

The TF-Pro series at a glance

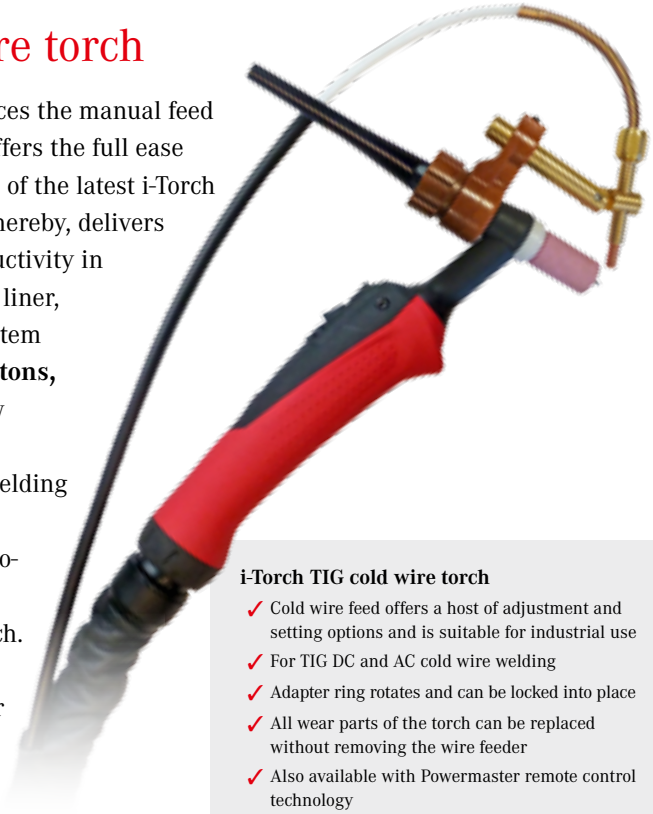
- ✓ Complete professional TIG functionality
- ✓ ITC-Inside makes it possible to use standard torches as well as the latest, fully digital TIG torch technology including Powermaster remote control
- ✓ SmartBase expert database regulates the parameters for optimum arc conditions
- ✓ Gas or water cooled
- ✓ Pulse and fast pulse up to 2 kHz
- ✓ Interval spot function for tack welding of thin sheet metal
- ✓ Tiptronic job memory for up to 100 welding tasks
- ✓ Separate, removable control panel for controlling the TIG cold wire feed
- ✓ Fast Connect System (FCS) for a fast and reliable wire feed without the need to thread the wire separately into the hose package
- ✓ "3 steps to weld" operating concept
- ✓ With non-contacting HF ignition (can be changed over to ContacTIG)
- ✓ Electrode welding function
- ✓ Connection for hand and foot remote control
- ✓ Manufactured and tested according to DIN EN 60974-1, with CE mark, S-symbol and IP 23

Additional in the AC/DC

- ✓ Changeover DC to AC
- ✓ Positive polarity ignition and automatic cap shape
- ✓ Lorch MACS special process, increasing the weld quality for thin aluminium sheets

i-Torch TIG cold wire torch

The new TIG cold wire torch replaces the manual feed when you weld filler material. It offers the full ease of use and exceptional ergonomics of the latest i-Torch generation of Lorch torches and, thereby, delivers a maximum of TIG quality & productivity in conjunction with the carbon-PTFE liner, which minimises friction. This system is available with **double push buttons, UpDown functionality** or the new **Powermaster control.**
In addition to letting you set the welding current with one-amp accuracy, Powermaster remote control technology also allows you to control the wire feed speed directly at the torch. Another option is to switch the cold wire feed on and off if you, for instance, do not require any filler material for spot welding or tacking for an intermediate period of time.



i-Torch TIG cold wire torch

- ✓ Cold wire feed offers a host of adjustment and setting options and is suitable for industrial use
- ✓ For TIG DC and AC cold wire welding
- ✓ Adapter ring rotates and can be locked into place
- ✓ All wear parts of the torch can be replaced without removing the wire feeder
- ✓ Also available with Powermaster remote control technology

3 steps to achieve weld perfection

1. Select welding process
2. Specify electrode diameter
3. Adjust welding current

Changing wires made easy

The Fast Connect System (FCS) makes the need to manually thread in the wire when changing wire rolls a thing of the past. The special wire feed extension at the central connection guides the liner precisely up to the wire feed motor, dispensing with the need to thread the wire into the hose package. Ingeniously simple, simply ingenious.

Removable control panel for controlling the cold wire feed

Since it is synergic and adapts to the thickness of the material, the feed setting cuts down your workload significantly. You can then use the removable control panel to tweak the settings to your needs directly at your workpiece. Once you have adjusted the settings to your requirements and stored them, you can even remove the control panel altogether in order to avoid inadvertent adjustments.

Professional TIG for workshop and industrial applications

The T-Pro series distinguishes itself by its sophisticated inverter technology and control options that offers TIG professionals everything they need to achieve perfect results. The robust, yet compact housing can handle anything you throw at it even in the most demanding production environments.

The operating concepts of the T-Pro and TF-Pro

- ✓ User-oriented guidance using illuminated symbols
- ✓ Exact-ampere digital display for welding current
- ✓ Digital display for welding voltage
- ✓ Simple parameter adjustment
- ✓ Remote control connection
- ✓ LorchNet for the entry to Lorch Automation

- ✓ User-oriented guidance using illuminated symbols
- ✓ Exact-ampere digital display for welding current
- ✓ Digital display for welding voltage
- ✓ Simple parameter adjustment
- ✓ Remote control connection
- ✓ LorchNet for the entry to Lorch Automation
- ✓ Separate control panel for controlling the integrated 4-roll TIG cold wire feed

The power variants

3 Years INDUSTRIAL WARRANTY LORCH

Welding range	**T-Pro 250** DC or AC/DC	**T-Pro 300** DC or AC/DC	**TF-Pro 300** DC or AC/DC
TIG	5 – 250 A	5 – 300 A	5 – 300 A
Electrode	10 – 200 A	10 – 200 A	10 – 200 A
Weldable electrodes			
TIG Ø in mm	1.0 – 4.0	1.0 – 4.0	1.0 – 4.0
Electrode Ø in mm	1.5 – 5.0	1.5 – 5.0	1.5 – 5.0
Standard duty cycle for TIG welding measured according to German quality standard DIN EN 60974-1			
Current at 100 % duty cycle (DC / AC/DC)	180 A / 200 A	230 A / 200 A	230 A / 200 A
Current at 60 % duty cycle (DC / AC/DC)	250 A / 230 A	270 A / 230 A	270 A / 230 A
Duty cycle I max. (DC / AC/DC)	60 % / 45 %	45 % / 30 %	45 % / 30 %
Machine			
Mains voltage	3~400 V	3~400 V	3~400 V
Permitted mains tolerance	+15 % / –25 %	+15 % / –25 %	+15 % / –25 %
Mains fuse, delayed action	16 A	16 A	16 A
Dimensions in mm (L x W x H)	880 x 400 x 755	880 x 400 x 755	880 x 400 x 755
Weight, gas-cooled (DC / AC/DC)	43.4 kg / 45.5 kg	43.6 kg / 45.5 kg	52 kg / 53.5 kg
Weight, water-cooled (DC / AC/DC)	58.6 kg / 60.7 kg	58.8 kg / 60.7 kg	67.2 kg / 68.7 kg
Cold wire options			
Integrated cold wire feed	– –	– –	●
Option to connect the Lorch Feed cold wire feeder	●	●	– –

The V Series

Dreams become reality.
At least if you are a TIG welder.

Outstanding TIG technology – in groundbreaking industrial design. The design was created by our engineers in 2,562 hours and oriented to practical requirements without compromise. The internal values are also impressive due to the most modern inverter technology with **top duty cycles.** Together with the "3 steps to weld" operating concept, the V series is pursuing one objective: to provide optimum practical compatibility and maximum productivity. Irrespective whether in DC or AC/DC version. And regardless if used in manual operation or in an automated system. **SmartBase,** the Lorch expert database, perfectly controls the arc. And nevertheless **all parameters can be changed individually.** So every professional finds his optimum settings for each material & application.

The pulsing function is also impressive: thanks to less heat, the root pass and difficult positions are clearly better mastered. Also the **Tiptronic function.** You can store all values of repeatable welding tasks with this. Up to 100 jobs can be called up at any time. What more could a TIG welder want?

The V Series at a glance

- ✓ Outstanding TIG weld characteristics
- ✓ Complete professional TIG functionality
- ✓ SmartBase expert database regulates the parameters for the optimum arc
- ✓ Tiptronic job memory for up to 100 welding tasks
- ✓ Pulse and fast pulse function bring additional benefits for the welding of thin plates; fast pulse up to 2 kHz
- ✓ In robust, completely transportable industrial housing
- ✓ Gas or water cooled
- ✓ Connection for hand and foot remote control
- ✓ Secondary current, prevents failure during over-heating of the workpiece
- ✓ Automatic final current reduction (downslope) for a perfect weld end
- ✓ "3 steps to weld" operating concept
- ✓ Plain text display with language selection
- ✓ High efficiency and low energy consumption due to the most modern industrial electronics and the fan on demand technology
- ✓ Manufactured and tested according to DIN EN 60974-1, with CE mark, S-symbol and IP 23
- ✓ Can be completely automated (LorchNet connection or robot interface)

Additional in the AC/DC

- ✓ Changeover DC to AC
- ✓ More cleaning using square wave current (AC variant) for welding aluminium
- ✓ "dB down" function (40 % less noise exposure)
- ✓ Positive polarity ignition and automatic cap shape

Stay flexible – the V mobile the complete system for your business

Admittedly, it does not fit in your pocket, but on a man's arm. Thus all features of a modern industrial system follow you wherever you want to go. With **Mobile-Car** and **water-cooling unit** – you are ready to roll. The V mobile sits at an ideal working height, the gas cylinder is fixed in its support and the torch is water-cooled for optimum performance. The V remains "mobile" and at the same time has the functionality of a large compact system.

Water-cooling unit WUK 5: High performance cooling unit for water-cooled TIG torch

Mobile Car: Carriage for supporting the V mobile and the water re-circulation cooling unit WUK 5

Everything to benefit your TIG productivity

1. Remote control directly at the torch

Using the **UpDown remote control torch,** you are at the place where things happen – directly at your workpiece. You have the torch in your hand, control the welding process from there and also regulate the welding current with it. If Tiptronic mode is activated, you even select the stored jobs directly using the torch. So you can concentrate on what matters: the perfect weld seam.

2. Cold wire feed "Feed"

The automatic **cold wire feeder** automates the manual feeding of filler material. As soon as high volume is required during TIG welding and the supply of additional filler material is needed, the Lorch Feed provides maximum TIG productivity. Also over long working times.

3. TIG perfectly automated

The V has **LorchNet,** a modern communications system. This digital data highway provides standardised communication and ensures that all components located in a Lorch automation system understand each other perfectly.
The result is "Plug & Weld" and makes the V the perfect power source for your TIG automation.

V Series

Quality
Made in Germany

Professional TIG without compromise

The V is the professional TIG industrial system. The state-of-the-art, digital TIG inverter welding system welds steel, stainless steel, copper and aluminium in AC/DC version without compromise and all this with the simplest operating front panel. Also completely automated if required.

3 Years INDUSTRIAL WARRANTY
LORCH

3 steps to achieve weld perfection – the operating concept of the V

1. Operating mode: select AC or DC
2. Specify electrode diameter
3. Adjust welding current

Clearly arranged operating panel with plain text display

The power variants

Welding range	V 24 mobile DC or AC/DC	V 30 mobile DC or AC/DC	V 24 DC or AC/DC	V 27 DC or AC/DC	V 30 DC or AC/DC	V 40 DC or AC/DC	V 50 DC or AC/DC
TIG	3 – 240 A	3 – 300 A	3 – 240 A	3 – 270 A	3 – 300 A	3 – 400 A	3 – 500 A
Electrode	20 – 200 A	20 – 250 A	20 – 200 A	20 – 220 A	20 – 250 A	20 – 300 A	20 – 400 A
Weldable electrodes							
TIG Ø in mm	1.0 – 3.2	1.0 – 3.2	1.0 – 3.2	1.0 – 3.2	1.0 – 4.0	1.0 – 4.0	1.0 – 4.8
Electrode Ø in mm	1.5 – 4.0	1.5 – 4.0	1.5 – 4.0	1.5 – 4.0	1.5 – 6.0	1.5 – 6.0	1.5 – 6.0
Practical duty cycle for TIG welding at 25 °C ambient temperature							
Current at 100 % duty cycle (DC / AC/DC)	240 A	300 A	240 A	270 A	300 A	400 A	480 A
Current at 60 % duty cycle (DC / AC/DC)	240 A	300 A	240 A	270 A	300 A	400 A	500 A
Duty cycle I max. (DC / AC/DC)	100 %	100 % / 60 %	100 %	100 %	100 %	100 %	80 %
Standard duty cycle for TIG welding measured according to German quality standard DIN EN 60974-1 at 40 °C ambient temperature							
Current at 100 % duty cycle (DC / AC/DC)	220 A / 190 A	270 A / 240 A	220 A / 210 A	250 A	250 A	360 A	380 A
Current at 60 % duty cycle (DC / AC/DC)	240 A / 220 A	300 A / 280 A	240 A / 230 A	270 A	300 A	400 A	500 A
Duty cycle I max. (DC / AC/DC)	60 % / 50 %	60 % / 50 %	60 % / 50 %	60 %	60 %	60 %	60 %
Machine							
Mains voltage	3 ~ 400 V	3 ~ 400 V	3 ~ 400 V	3 ~ 400 V	3 ~ 400 V	3 ~ 400 V	3 ~ 400 V
Permitted mains tolerance	+/– 15 %	+/– 15 %	+/– 15 %	+/– 15 %	+/– 15 %	+/– 15 %	+/– 15 %
Mains fuse, delayed action	16 A	16 A	16 A	16 A	32 A	32 A	32 A
Dimensions in mm (L x W x H)	812 x 283 x 518	812 x 283 x 518	1130 x 450 x 815	1130 x 450 x 815	1130 x 450 x 815	1130 x 450 x 860	1130 x 450 x 860
Weight in kg (DC / AC/DC)	29.4 / 35.1	31 / 37	84.6 / 90.5	85 / 92	86.4 / 93.6	107.6 / 121.5	108.7 / 123.2

Lorch Feed

Maximum TIG productivity. The TIG cold-wire feeder automates the manual feeding operation.

The supply of filler material is always required during TIG welding when additional volume is required. It is also needed to bridge gaps and compensate for material tolerances. The Lorch Feed is used here and provides superior TIG quality and high speed with absolute precision. The feed has a **completely digital controller,** a tacho-regulated feed motor and a **4-roller precision feeder** for exact wire delivery.

There are various possible uses because, as well as its role as a completely integrated **part of the Lorch automation,** the feed can also be used as a "stand-alone" solution **for manual welding.**

In combination with the external power supply, operation even in areas with increased electronic hazards (as per S marks) is possible.

Irrespective of which application the feed is used for, one thing is ensured: for **maximum TIG productivity.** Extremely helpful in this regard: the synergic function which provides **automatic wire feed adaption** in the case of changing the current (pulsing).

Feed with torch guidance by hand

Feed in the automated application

The Feed at a glance

- ✓ 4-roller precision wire feeder
- ✓ Tacho-regulated feeder motor
- ✓ Electronically monitored and regulated wire feed speed
- ✓ Wire slip compensation
- ✓ Synchro Pulse, pulses the wire synchronously to the pulse of the welding current
- ✓ Can also be used together with the Lorch heat/power source for wire pre-warming with TIG hot wire applications.
- ✓ "3 steps to weld" operating concept
- ✓ Plain text display with language selection
- ✓ Tiptronic job memory for up to 100 welding tasks
- ✓ Can be used for manual operation and as completely integrated part of the Lorch Automation construction kit
- ✓ Available for the V Series and the T ControlPro
- ✓ Available with external power supply, for use in environments with increased electrical hazard (e.g. cramped conditions).

Feed application areas

For manual welding
easily adaptable using LorchNet
to your Lorch power source

Lorch Automation
as completely integrated part of the
modular Lorch-Automation-System

	TIG cold wire feeder Feed
Feeder speed	0.1 – 6.0 m/min (opt. 0.5 – 20)
Drive / feeder	4-roll / tacho-regulated motor / digital speed feedback
Pulse frequency	5 Hz
Mains voltage	230 V
Mains frequency	50/60 Hz
Mains plug	Shockproof
Weight	21.5 kg

3 steps to achieve weld perfection

1. Connect to LorchNet and switch on machine
2. Select parameters
3. Adjust wire feed speed

Unique – Plug & Weld

LorchNet. The cable connecting everything, for manual welding with connection to your Lorch power source. Also as well as for automated welding, by connection to the Lorch-Control, the central control unit of the Lorch-Automation-System. Your benefit: Maximum reliability and extremely fast installation. Simply Plug & Weld.

i-Torch – possibly the best

Shortened distance between controls

As a comparison with a standard torch reveals: The i-Torch brings you 2 cm closer to your welding location. The resulting optimisation of the torch's centre of gravity and the reduced lever forces give significantly improved handling. It is now easier to focus the arc precisely and steadily.

Various control modules

Available with a different set of features, suitable for subsequent changeover.

Marked grip point

With integrated retaining notch for an even more secure fixation of the desired grip position.

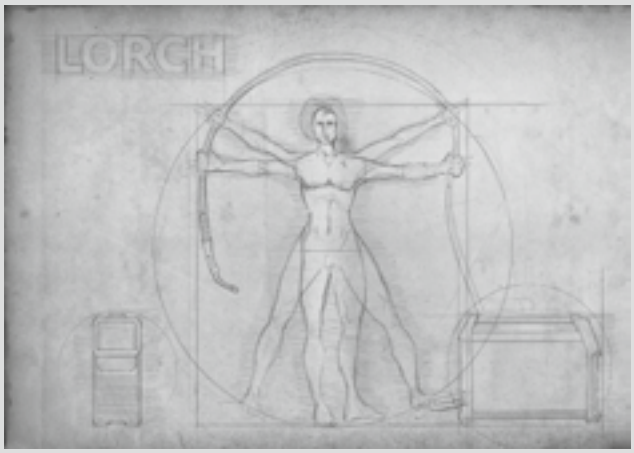
Contoured side design

Lets you hold and guide the torch securely and without causing fatigue.

TIG torch in the world.

Excitement springs from perfection in the details.

TIG welders have extremely high requirements when it comes to the comfort and ease of use their torch must offer. Applying their utmost dedication and inventive talent as well as the clear conviction that “only practical use matters”, our product designers, engineers and many TIG welders set out to optimise the ergonomics of our new TIG torches. The result is impressive. The name says it all. The i-Torch. The objective was not to simply provide welders with a TIG torch that is somewhat more comfortable to handle. Rather, we intended to achieve a level of ergonomics and functionality that would allow you to work without experiencing fatigue and making mistakes, thereby increasing the efficiency of your workflow substantially. The special design we created for the i-Torch allowed us to, among other things, shift the position of the control buttons further to the front and minimise the distance to the arc. Besides these accomplishments, we also managed to optimise minor details. A good example is the secondary current button, which we deliberately moved to a position above the UpDown button in order to avoid unintended adjustments of the welding current and other parameters.



Elevated secondary current button

prevents the UpDown button from being pressed inadvertently.

Oval handle recess with optimised centre of gravity

Allows the torch to fit perfectly in your hand and, thereby, gives you improved control over the welding process.

HighFlex/leather hose package

for maximum mobility and ease of use.

Holding nubs

Provide the perfect “grip” and prevent the torch from shifting while you are holding it.

Ball joint

Offers perfect flexibility for the connection between torch body and hose package.

Perfect control made

Control as it should be ...

Double push button operation

Using this torch, you switch the welding current precisely "On/Off" and activate the secondary current function if needed.

- **Welding current:** A single press of the front torch trigger starts the welding process. Pressing a second time ends the welding process.
- **Secondary current:** Pressing the rear torch trigger activates the secondary current and reduces the welding current in fractions of a second. When the button is released again, you switch back to the original welding current.

UpDown operation

The double push button functionality of the torch will be fully retained. What is more, you can use the UpDown buttons to control the welding current or the stored jobs if working with Tiptronic mode enabled.

Powermaster torch. Perfectly readable in any torch position.

Index finger operation
(gripped from below)

Thumb operation

Index finger operation
(gripped from above)

simple.

... and even beyond that.

i-Torch

Everything at a glance

Anyone who occasionally takes their TIG system on-site is familiar with the problem of being too far apart from their welding equipment while standing on a ladder or working in a specific location. All this back-and-forth and up-and-down that is needed to find the right setting for the perfect seam is annoying. There will come a point where you just stop bothering. This is not how you achieve professional quality. Professionals now have a handle on this situation thanks to their i-Torch with Powermaster control which lets them control their essential settings directly at the torch using the **control panel with integrated 7-segment display.**

Powermaster Operation

When used in combination with UpDown torch functionality, the digital display shows you everything you need at a glance and lets you control the welding current with one-amp accuracy. What is more, the **job memory** allows you to load the settings you used during your best welding jobs in a flash. You can also retrieve any **two parameters** you previously set for your system and customise them on the control panel of the torch.

You can enjoy Powermaster functionality on all Lorch machines that are equipped with:

ITC INSIDE
Intelligent Torch Control

HandyTIG
AC/DC

T Series

T-Pro series,
TF-Pro

Get “a grip” on your most

The i-Torch with Powermaster

Also works “with your left”

Simply press and hold the Mode button for seven seconds, and the display will switch to a view appropriate for left-handed users. The reading dot indicates the reading direction.

Every welding job poses a unique challenge. The TIG Powermaster torch allows you to “adjust” to any situation without a problem:

Mode 1 (green)
Display the set **welding current** and control it with one-amp accuracy as usual using the UpDown buttons.

Mode 3 (orange)
Parameters of your choice
For instance, the downslope setting: the ability to adjust the downslope is of great importance to anyone who has to change materials frequently as it allows them to optimise the crater filling.

important parameters

remote control.

Complete digitalisation makes it possible

The i-Torch Powermaster torch from Lorch revolutionises the possibilities **offered by remote controlling the torch during TIG welding.**
Yet again, our Lorch welders and engineers have proven their inventive talents and reinvented the TIG remote torch by expanding its capabilities with fully digital bus communication and optimal ergonomics. Its patented operating concept improves the welding process and ensures **maximum productivity during TIG welding.**

In addition to welding current and welding jobs, you can retrieve two additional parameters of your choice and customise them on the control panel.

Mode 2 (yellow)
Display the selected job sets and the associated jobs of the **Tiptronic job memory.** This lets you call up to 100 work values (ex. T series) directly at the workpiece using the torch control panel.

Mode 4 (orange)
Parameters of your choice
For instance, AC balance: those who weld aluminium know how important and frequently necessary it is to adjust the AC balance in order to coordinate the cleaning effect, penetration and arc shape perfectly with one another.

Heat Protect LORCH

Every i-Torch comes standard with HeatProtect. A heat sensor provides thermal protection and safeguards the high-quality electronic control system against overheating.

Torch Protect LORCH

TorchProtect (which can be activated in the system if needed) automatically detects the connected i-Torch and prevents the torch from being subjected to a current that exceeds the maximum, thereby protecting the torch against overload.

ITC INSIDE
Intelligent Torch Control

All i-Torches can be used with Lorch machines that have ITC-Inside (Intelligent Torch Control). Benefits of ITC technology: yourself with no i-Torch at hand, do not fret – the system continues to work with standard torches as well.

Only practical use matters

The i-Torch Powermaster torch from Lorch revolutionises the possibilities offered by remote controlling the torch during TIG welding. Its level of ergonomics and functionality allows you to work without experiencing fatigue and making mistakes, thereby increasing the efficiency of your workflow substantially.

Creating the perfect weld seam starts with the torch.

a-LTG/a-LTW

Double push button UpDown

i-LTG/i-LTW

Double push button UpDown Powermaster

i-Torch

a-LTG/a-LTW	Operating variants	i-LTG/i-LTW
●	Double push button	●
●	UpDown	●
--	Powermaster	●
	Torch characteristic & additional functions	
●	i-Torch ergonomics	●
--	Fully digital	●
--	TorchProtect	●
--	HeatProtect	●
Size 1/size 2	Handle recesses	Size 1/size 2
	Hose package version	
●	Standard (basic)	--
●	Highflex	●
	Recommended for	
Suitable for use on all Lorch TIG machines. Particularly recommended for the V and HandyTIG DC	Series of machines	Suitable for use on all Lorch TIG machines with ITC-Inside: T series, T-Pro series, TF-Pro, HandyTIG AC/DC

i-Torch power variants

Gas-cooled	a-LTG/i-LTG 900	a-LTG/i-LTG 1700	a-LTG/i-LTG 2600
Load	DC 110 A AC 80 A	DC 140 A AC 100 A	DC 180 A AC 130 A
Duty cycle	35%	35%	35%
Electrode Ø in mm	0.5 - 1.6	0.5 - 2.4	0.5 - 4.0
Hose package length in m	4/8	4/8	4/8
Handle recess	Size 1	Size 1	Size 2
As a cold wire torch	--	--	●

Water-cooled	a-LTW/i-LTW 3000	a-LTW/i-LTW 1800	a-LTW/i-LTW 1800 sc	a-LTW/i-LTW 4500
Load	DC 320 A AC 230 A	DC 320 A AC 230 A	DC 400 A AC 280 A	DC 450 A AC 360 A
Duty cycle	100%	100%	100%	100%
Electrode Ø in mm	0.5 - 3.2	0.5 - 4.0	0.5 - 4.2	1.6 - 6.4
Hose package length in m	4/8	4/8	4/8	4/8
Handle recess	Size 1	Size 2	Size 2	Size 2
As a cold wire torch	●	--	--	--

Lorch Q-Data

Recording welding data is now finally easy.
Document. Evaluate. Analyse.

You are probably also among those who thought: Recording and documenting welding data sounds interesting, but also seems difficult and expensive. You may have instantly thought in terms of data processing, many cables, costly measurement sensors, time-consuming installation, etc. And you were right. Until now. Lorch's Q-Data is breaking new ground as a system that provides welding data documentation the way it should be: easy and straightforward. One recorder per welding unit with a storage capacity that allows you to weld for at least a whole month. The package comes with software that clearly shows all of your welding activity. The data is transferred to the PC in ways that fit your operation: quick and easy via USB or, by Ethernet or even wirelessly over your company's Wi-Fi network. Q-Data meets your requirements perfectly, whatever they may be: whether you need to simply document everything to stay in compliance with new standards such as EN 1090 or other international standards or whether you require recordings that satisfy the quality standards of your clients. Other reasons may include increased transparency for your production and welding operations or a more detailed analysis and verification of whether welding results are in line with your company's specifications. Quality control and quality assessment are an important topic in the welding industry, and, thanks to Lorch Q-Data, providing these services has now become a lot easier. What is more, Lorch technology is also easy on your wallet as you will not have to invest in expensive, external sensors when employing Lorch's industrial welding systems equipped with LorchNet. The intelligent process technology along with the fully integrated measuring equipment delivers the welding data directly to the Q-Data recorder via LorchNet.

Q-Data at a glance

- ✓ Stand-alone solution for documenting welding data
- ✓ Robust recorder housing suitable for industrial applications
- ✓ Simple operation thanks to clearly arranged content on the LCD display
- ✓ Reliance on the precision measurement equipment built into Lorch's industrial welding systems (internal gas flow measurement unit optional)
- ✓ Real-time display the welding parameters current, voltage, wire feed speed and gas flow while recording is in progress
- ✓ Optional identification of the welder using RFID. Welding processes can be evaluated and attributed to individual welders
- ✓ Built-in numeric keypad lets you enter order numbers, component numbers, weld seam numbers, and WPS numbers
- ✓ Support for USB barcode scanners and other USB recording devices
- ✓ Capacity to store welding data produced within a period of one month during three shifts a day
- ✓ The captured welding data is transferred via USB, via Ethernet or an optional Wi-Fi connection

Q-Data software

- ✓ Intuitive, state-of-the-art user interface
- ✓ Management of an unlimited number of welding systems and welders
- ✓ Creation and management of welding tasks
- ✓ Display and print out welding data in a curve chart
- ✓ Display the recorded data
- ✓ Filter the welding data according to welding system, weld recorder, welder or welding parameters
- ✓ Create welding system directories
- ✓ Create directories of employees including assignment of RFID chip IDs
- ✓ Standard report of machine and workstation utilisation
- ✓ Configure customised reports (optional)

Ready to go in no time thanks to “Plug & Weld”

What “Plug & Play” is in the world of computers Lorch calls “Plug & Weld”. All it takes is to connect the Q-Data recorder (multi-use version) to the Lorch power source using LorchNet, and you are good to go. The machines will start communicating right away. The fully integrated measurement equipment – if requested, also including a gas flow measurement unit – reliably delivers correct information about all essential welding parameters captured by the recorder. The built-in memory has enough capacity to store data for three months during one-shift operation or one month during three-month operation.

Operation: Easy & functional

- LCD display including context-sensitive buttons for direct operation
- Real-time display of the recorded welding parameters: Welding current, welding voltage, wire feed, and gas flow
- Easy menu navigation
- RFID detection for easy welder identification
- Numeric keypad for entering order numbers, component numbers, weld seam for WPS numbers

Input data the easy way

Welding data becomes meaningful when it is collected in connection with a specific order or a specific workpiece. It is also helpful during the subsequent analysis to have such information available as the welding procedure specification (WPS number) or layer type specification of the recorded weld seam. Q-Data makes it much easier for you to enter this in a practical way.

You can use the numeric keypad integrated in the operating panel to enter order numbers, component numbers or WPS numbers directly. You can also make alphanumeric entries. There is no need to attach an external keyboard.

You can also use the USB port to connect barcode scanners and temperature measuring devices that let you capture the preheating temperature. Such additional devices will help you record such information as job and WPS numbers in a correct and reliable fashion.

Welding data documentation for any enterprise

Q-Data is the versatile “Plug & Weld” system that lets companies of any size document their welding data. Machine and recorder form a perfect unit that works reliably and documents all welding processes accurately – with or without the support of a data processing system.

Monitor every aspect of your welding process using the Q-Data PC software.

Documentation

The captured welding data is displayed in clearly arranged tables and can easily be identified thanks to various filter and search options.

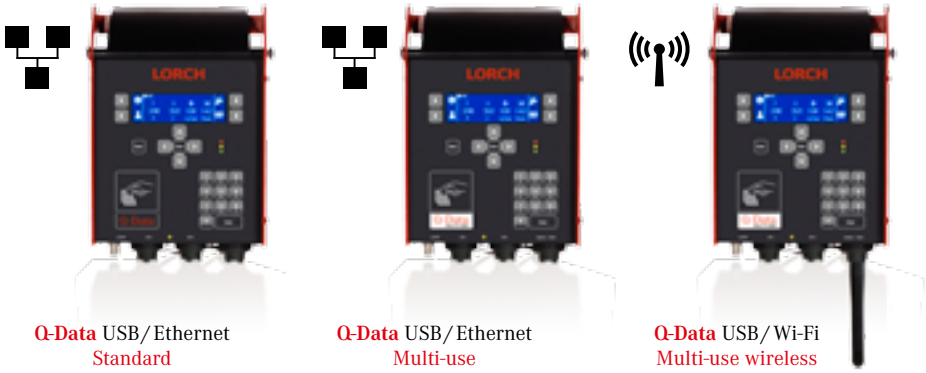
Evaluation

You can aggregate the output of the welding data and evaluate such parameters as the utilization of each machine or workstation. Even individual reports can be optionally provided on demand.

Analysis

Each individual weld can be analysed using easy-to-understand diagrams of the current and voltage characteristics and the measured wire feed speed and gas flow.

The recorder variants



Recorder	Q-Data USB/Ethernet Standard	Q-Data USB/Ethernet Multi-use	Q-Data USB/Wi-Fi Multi-use wireless
Weight	2.05 kg	2.05 kg	2.05 kg
Dimensions in mm (L x W x H)	277.5 x 202 x 78.6	277.5 x 202 x 78.6	277.5 x 202 x 78.6
Storage capacity	800 MB	800 MB	800 MB
Compatibility	All industrial Lorch systems equipped with a LorchNet interface		
Numeric keypad	●	●	●
Data transfer			
USB	●	●	●
Ethernet	●	●	--
Wi-Fi	--	--	●
Additional data collection			
Via USB barcode scanner (optional)	●	●	●
Via USB keyboard (optional)	●	●	●
Via numeric keypad	●	●	●
Software			
Operating system	Windows XP or higher	Windows XP or higher	Windows XP or higher
User administration	●	●	●
Unlimited storage capacity	●	●	●
Version used			
Only if combined with separately enabled/separately prepared machines equipped with LorchNet connection	●	--	--
With all industrial Lorch machines equipped With LorchNet connection	--	●	●

Lorch AutoProtect

Optimum protection for everyday work. Professional equipment for all welders and all welding processes.

Apart from the welder's intuition for the perfect arc, flawless welding results primarily depend on: **a good view of the weld pool and the guidance of the torch.** To ensure the best possible results, our own welders are extremely particular about selecting the right Lorch AutoProtect welding helmets. The criteria they apply are **top-shelf quality, outstanding performance and perfect suitability for everyday use.** Two welding helmets qualified for Lorch's AutoProtect product line on account of their **various interior adjustment options,** their first-rate fit and their individual setting options for protection grade as well as response and delay characteristics. Thanks to its **exceptional price/performance ratio,** the Flex-Pro is the perfect entry-level version for all welding workshops. The MultiFlex-Pro, on the other hand, is the welding helmet that satisfies the highest standards and additionally provides an exterior control panel. Built-in solar cell power supply and a separate grinding mode.

AutoProtect Flex-Pro 8-12

Including an adjustable shade level control covering protection grade DIN 8-12 the Flex-Pro offers reliable protection and perfect visibility for a **wide range of electrode, MIG-MAG and TIG welding applications.** A **3-stage sensitivity controller** helps to adjust the response characteristics to the welding scenario at hand. Another feature of the Flex-Pro is an adjustable delay for the dark/bright switch. The helmet is controlled on the inside directly at the cartridge using the **LED display** that indicates the protection and sensitivity stage. Also intgrated is a function that indicates to the user when he is running low on power and needs to replace the battery.

Torch and welding wire, positioned perfectly

Ignition: instant dimming

Stage	Field of vision	Weight	-5 °C to +55 °C	Classification
8-12	44×93	440 g		1/2/2/3

Flex-Pro 8-12 at a glance

- ✓ Protection grade DIN 8-12
- ✓ Maximum UV, IR protection at every protection grade
- ✓ Optimum protection against radiation for face, ears and eyes
- ✓ Helmet fit is adjustable
- ✓ Adjustable face-visor distance
- ✓ Setting options for protection grades as well as response and delay characteristics (sensitivity)
- ✓ Easy replacement of the dust-proof cover lens
- ✓ Indicator for necessary battery change
- ✓ Optimised field of vision 44 × 93 mm (H × W)

MultiFlex-Pro 5-13 at a glance

- ✓ Protection grade DIN 5-13
- ✓ Maximum UV, IR protection at every protection grade
- ✓ Optimum protection against radiation for face, ears and eyes
- ✓ True-colour welding filter cartridge for detailed vision
- ✓ Helmet fit is adjustable
- ✓ Adjustable face-visor distance
- ✓ Setting options for protection grades as well as response and delay characteristics (sensitivity)
- ✓ Easy replacement of the dust-proof cover lens
- ✓ Optimised field of vision 50 × 100 mm (H × W)
- ✓ Control unit outside the helmet
- ✓ No battery change, always ready for operation thanks to built-in solar cells
- ✓ Grinding mode

The AutoProtects. Multi protection as standard.

Apart from providing **reliable protection** for the eyes against welder's flash, AutoProtect helmets also protect the entire face including the ears **against UV radiation** as well as **sparks, chips** and **weld spatter.** Furthermore the MultFlex-Pro 5-13, with its special **grinding note,** which disables the automatical dimming feature, is also perfectly suited for polishing and grinding works.

AutoProtect MultiFlex-Pro 5-13

Adjusted in no time at all – thanks to exterior control panel.

Including an adjustable shade level control covering **protection grade DIN 5-13,** special sensors fitted with daylight filter will detect the arc. The **infinitely variable sensitivity controller** can be used to adjust the response characteristics perfectly to any welding scenario. Also where other helmets meet their limits, e.g. at low welding currents, rapid arc changes, reflecting surfaces, etc.: the AutoProtect MultiFlex-Pro 5-13 stays dimmed. The **delay control offers two stages** for the transition from dark to bright in order to protect the eyes against afterglow of the weld metal, for instance. Thanks to its built-in solar cells, the MultiFlex-Pro is **always ready for operation,** which makes changing batteries completely unnecessary.

Torch and welding wire, positioned perfectly

Ignition: instant dimming

Grade	Field of vision	Weight
5 – 13	50 × 100	490 g

-5 °C to +55 °C	Classification 1/1/1/2

Protection grades matching the welding process

Welding process	Current voting in amperes																				
	1.5	6	10	15	30	40	60	70	100	125	150	175	200	225	250	300	350	400	450	500	600
Electrode	8							9	10		11		12			13				13	
TIG	–		8		9			10			11			12		13		–			
MIG	–							9		10			11			12		13	14	-	
MAG	8							9	10			11			12			13		14	
Braze welding	–									10		11		12		13		14			
Gouging	10											11		12		13		14		–	

Recommendations for selecting the automatic helmet protection grade that is right for the respective welding tasks (according to EN 397).

Lorch welder's clothing

Modern design, great protection, professional workwear in true Lorch quality

- ✓ Outstanding protection against heat and flame thanks to Proban FR finish
- ✓ Exceptional comfort thanks to special fabric made of 75 % cotton and 25 % polyester
- ✓ Rugged thanks to a material thickness of approx. 360 g/m²
- ✓ Extremely hard-wearing special seams
- ✓ Perfect UV protection
- ✓ Superior shape retention
- ✓ Brilliant colours
- ✓ Contemporary cut
- ✓ Many clever and useful details

Welder's coat

in anthracite/red. Extra deep pockets on the left and the right provide ample space, e.g. for your wire pliers.

Certified quality with a system

DIN EN ISO 11611
Protective clothing for use in welding and allied processes

DIN EN ISO 11612
Protective clothing to protect against heat and flame

DIN EN 61482-1-2 Class 1
Protective clothing against the thermal hazards of an electric arc

DIN EN ISO 15797
Industrial washing and finishing procedures for testing of workwear

5-pocket welder jeans

in anthracite. Combines the cut of a real pair of jeans with the protective properties of professional welder's clothing.

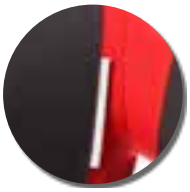
Welder's clothing

Experience welder workwear that was developed for welders by welders that guarantees a professional appearance. Contemporary cuts, convenient details and premium workmanship allow any modern welder to perform his work professionally and look stylish and attractive in the process. Take advantage of a special mix of fibres that comes with a Proban FR finish and a portion of 75 % cotton, which joins superior safety with exceptional shape retention plus a maximum amount of wearing comfort.

The combination of stand-up collar and welder's cap prevents weld spatter from penetrating the neck area.

Integrated breast pocket with concealed opening for protection against penetrating weld spatter. Large enough to even hold a smartphone.

A handy pen pocket on the left sleeve keeps your pen or any tool with a retaining clip readily available.



Safety reflectors on both sides at the front and rear improve visibility, e.g. during factory traffic in the evening.

Continuously concealed strip of durable press studs.

As they represent the spots subjected to the most wear and tear during welding, the sleeves have been given twice the padding with a double layer of fabric.

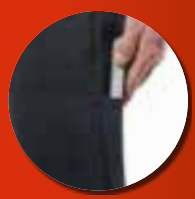
Width-adjustable sleeve cuffs for added heat and splash protection. The width of the welder's jacket can also be adjusted by press studs located on the waistband.

Welder's jacket

in anthracite/red. Including stand-up collar with front closure.

Welder's trousers

in anthracite/red. Large pocket on the right leg with side crease, can be closed with press studs. The left leg comes with a convenient ruler pocket.



Simply intelli

Because automation is not rocket science but

LorchTurn LorchBase LorchFix & Pos

Modular construction kit system

With **LorchAutomation,** you don't need to purchase a system with components and functions that you will probably never use. Cost-effectiveness for us means that you only pay for what you really need for the automation of your welding task. Therefore, you can configure your automation package from the Lorch construction kit exactly in accordance with your requirements and add to it at any time with additional modular components.

Perfectly matched components

One must set the tone. The Lorch Control conducts the automation orchestra perfectly. Every module – whether the turntable, power source or pneumatic slide axis – knows its role precisely. All interact perfectly together and receive their commands from the control unit via the **LorchNet bus system.** Whatever the welding process, whatever the components – everything which belongs together comes together here.

Extremely fast implementation

Install machines, connect to each other, switch on, ready to start. The automation is set up for operation within a very short time. We call this **"Plug & Weld"** and thus means the end of tinkering for you. You concentrate immediately on the essentials, namely perfectly automated weld seams. You can achieve real results within hours of putting it into operation. We do not know of any other system that even comes close to this kind of performance.

gent welding.

simply a matter of selecting the right system.

LorchFeed LorchControl LorchQ-Sys LorchPower

Individually expandable

To be honest, there are some truly special applications which we cannot cover completely with our system construction kit. For this reason, we have purposefully designed our automation solution as an **open system** in which other components can be integrated – even at a later date. LorchAutomation is able to take into account special application requirements so that you can achieve the best individual solution for yourself.

Real short changeover times

Automating small batch sizes economically for often changing tasks; that is the challenge and the changeover time is the critical factor. No time must be wasted. The system perfectly supports each step. All settings can be made quickly and precisely. The **Tiptronic** job memory in the power source and LorchControl is extremely helpful. The welder has prepared the system for the present welding tasks in the shortest time.

Easy-to-use operating concept

The Lorch “3 steps to weld” operating concept also applies to the automation.
3 steps to achieve weld perfection:
1. Select workpiece diameter
2. Specify welding speed
3. Adjust welding power source
Time-consuming pre-tests no longer exists. The preparation of the system is a matter of minutes and the handling afterwards is child’s play for every operator: Insert workpiece, press button, and the welding process starts.

Boost your weld

The Ready-to-Robot systems by Lorch ensure

Your choice. Best solution.

Welding robots deliver valuable services in various industries and across a large variety of applications – especially during large-scale production. However, they also open new avenues for small and medium-size businesses. A robot operates precisely and, if correctly integrated, can also be used in a particularly flexible manner when production conditions change. What is more, its operation does not require a large amount of manpower. This allows you to improve the competitiveness of your own business. Lorch came up with the Ready-to-Robot approach in order to make it a cinch to get started.
Robots from well-known manufacturers such as **ABB, Fanuc, Kuka or Motoman** can easily be used with Lorch welding machines as well as **with any other robot system,** in principle. Small and medium-sized businesses, in particular, have the flexibility to choose from a variety of standard products. The philosophy: The sum of the products and services of the specialists for robotics, power source and torch, results in optimum welding results. Provided they are optimally integrated and highly compatible. That is the objective of Ready-to-Robot. The outcome is flexibility of the highest degree. This is because the Ready-to-Robot technology bundle provides for a seamless cooperation between top-notch components from torch to wire supply as well as their swift integration into a robotic solution.

Robotic automation made easy, thanks to welding technology made by Lorch.

Innovative sliding system in action:
Operating and maintenance position of the RF-06

KUKA

FANUC

ABB

YASKAWA MOTOMAN

REIS ROBOTICS

COMAU

Kawasaki

Further robot systems on request.

ing productivity.

maximum flexibility for robot welding.

RF-06

Compact feeder case for hollow wrist robots and standard robots with external hose package.

Q-Sys 2010

Optimum welding data monitoring and documentation in real time.

LorchNet Connector

Bus coupling system supporting all common protocols – from CANopen via DeviceNet to ProfiNet.

S-RoboMIG

High-performance robot power sources driven by Saprom inverter technology.

S-RoboMIG – guara

Our innovative upgrade concept keeps the

Operating option

Customised selection of the operating option. At the power source, as a remote control operating panel or both if necessary.

Lorch's robot power sources offer a decisive advantage over other products: they grow with "your" challenges. You pick the system you currently require to perform your welding tasks in an automated fashion. Each Lorch S-RoboMig is tailored to fit your requirements before it leaves our plant in Auenwald. No matter if you decide to purchase the most basic version, the synergic, or the pulse version, you can rest assured that you will be able to upgrade your system at a later point in time should the need arise, e.g. because a specific welding operation requires the application of the pulse process or you want to increase the productivity of your system by adding Lorch Speed processes. Our innovative S-RoboMIG upgrade concept makes it possible.

SeamTracking

Workpiece tolerances, shape imperfections and varying fixtures are obstacles to achieve a satisfying weld as they make maintaining a uniform seam quality and reproducibility during automatic welding extra difficult. The larger the workpiece and the longer the weld seam, the more often problems occur. You will then find that a fully programmed welding line will not produce the intended results in this case. The problem calls for corrections while the welding process is ongoing: seam tracking comes to mind. However, where will the robot obtain the information telling it how to change course. Costly, visual control systems are one way to effect the necessary corrections, the other is evaluating the welding parameters. And, no component knows the parameters better than the power source. The high-end control technology built into Lorch's S-RoboMIG uses a vast number of information to calculate in real time a signal that can be evaluated by the robot control. The procedure applies both to standard and pulsed arc processes. This seam detection and tracking function enables the robot to constantly adjust the guidance of the torch and adapt it automatically to the actual condition of the workpiece. The generated signal can be used to adjust the guidance of the torch both in the vertical and the horizontal direction.

nteed future-proof.

systems up to date and upgradeable at any time.

3. SpeedPulse upgrade

When utilising Lorch SpeedPulse, you are combining the speed advantages offered by MIG-MAG spray arc welding with the seam quality guaranteed by pulse technology.

2. Pulse upgrade

Flawless seams and splatter-free welding are the benefits when the pulse technology is applied during MIG-MAG welding.

1. Synergic upgrade

Operating based on the MIG-MAG welding programs for different material/wires/gas combinations, the synergic machine makes set-up a breeze as a large number of parameters are set automatically.

Technical data

S3 RoboMIG

Welding rate		25 – 320 A
Duty cycle 100 %	(40 °C)	250 A
Duty cycle 60 %	(40 °C)	280 A
Duty cycle Imax	(40 °C)	40 %

S5 RoboMIG

Welding rate	25 – 400 A	
Duty cycle 100 %	(40 °C)	320 A
Duty cycle 60 %	(40 °C)	350 A
Duty cycle Imax	(40 °C)	50 %

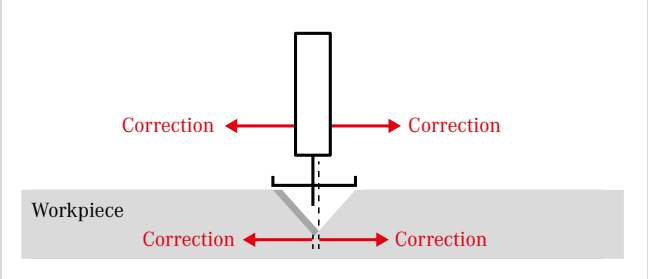
S8 RoboMIG

Welding rate	25 – 500 A	
Duty cycle 100 %	(40 °C)	400 A
Duty cycle 60 %	(40 °C)	500 A
Duty cycle Imax	(40 °C)	60 %

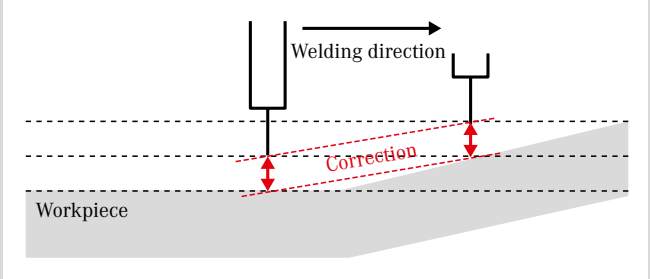
RF-06

Output	100 W
Feeder speed	0.1 – 25 m/min
Roll Ø	30 mm
Weight	7.2 kg
PushPull	Optional

Horizontal tracking



Vertical tracking



Lorch service for calibra

Simply more reliability for

Fast

Our mobile calibration system allows us to arrive and be ready for operation quickly helping us to ensure that your welding system will swiftly return to the operation area where it belongs and where it is most productive.

Easy

Time efficient calibration thanks to automated testing processes. LorchNet makes it possible: Thanks to the optimised integration of Lorch's power to source technology and third-party measuring equipment into Lorch's calibration-system.

Your benefit

Regular calibrations entail:

- ✓ The inspection of the measuring and control accuracy achieved by your welding system
- ✓ Verification that the system operates within the standard tolerance ranges
- ✓ The reproducibility of welding results
- ✓ An execution of welding tasks in accordance with the welding procedure specifications (WPS)
- ✓ Consistent quality across all workstations

Our service

Why you should trust in Lorch when calibrating your equipment:

- ✓ Calibration guaranteed to conform with DIN EN 50504
- ✓ On-site service – fast & competent
- ✓ Trained personnel assure supreme quality of service
- ✓ Comprehensive service – we will also calibrate welding systems made by other manufacturers
- ✓ If requested, we can also update the software on your Lorch system

tion and safety inspection

consistently high welding quality.

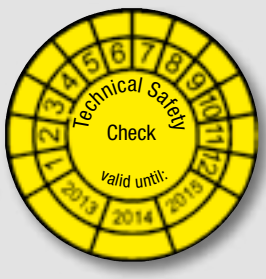
Precise

We employ state-of-the-art technology to measure wire feed, welding current and welding voltage and to calibrate your system for you. All of our measuring and calibration procedures comply strictly with the applicable standards.

Transparent

We create and archive your calibration certificates and inspection plates directly on your premises. At the time we leave, you will hold everything you need in your hands, and the task will have been completed fully and in a perfectly transparent manner.

The 2-in-1 package: Benefit from synergies reduce your effort.



Calibration and safety inspection performed during the same visit.

Industrial health and safety standards as well as the guidelines of statutory accident prevention regulations require that your welding system must be subjected to regular safety inspections. This inspection should be performed at least once a year.

If requested, we use our mobile calibration system to perform technical safety testing standards conform to the latest BGV A3 accident prevention regulations and the DIN EN 60974-4 standard, which specifies the specific requirements to be met by welding machines. Without the cumbersome need to switch connections between welding machine and calibration system. This helps save valuable time and money and offers the extra benefit of detecting possible major subsequent damages well in advance. Our services:

- ✓ Safety inspection in accordance with Accident Prevention Regulations and the standard applicable to arc welding equipment (DIN EN 60974-4)
- ✓ Preparation of test log for your documentation and application of the inspection sticker
- ✓ Archiving of your test logs

Notes

Lorch quality range.
Cutting edge technology – Made in Germany.

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Cutting edge technology – Made in Germany.

Lorch Headquaders:
Lorch Schweißtechnik GmbH
Im Anwänder 24 – 26
71549 Auenwald, Germany
T. +49 (0) 7191.503.0
F. +49 (0) 7191.503.199
info@lorch.biz
www.lorch.eu

Lorch United Kingdom:
Lorch Schweißtechnik Ltd
Unit 15, Littelton Drive
Huntington, Cannock
Staffordshire, WS12 4TR
T. +44 (0) 5600.494.599
F. +44 (0) 1543.577.756
lorch.uk@lorch.biz
www.lorch.eu

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