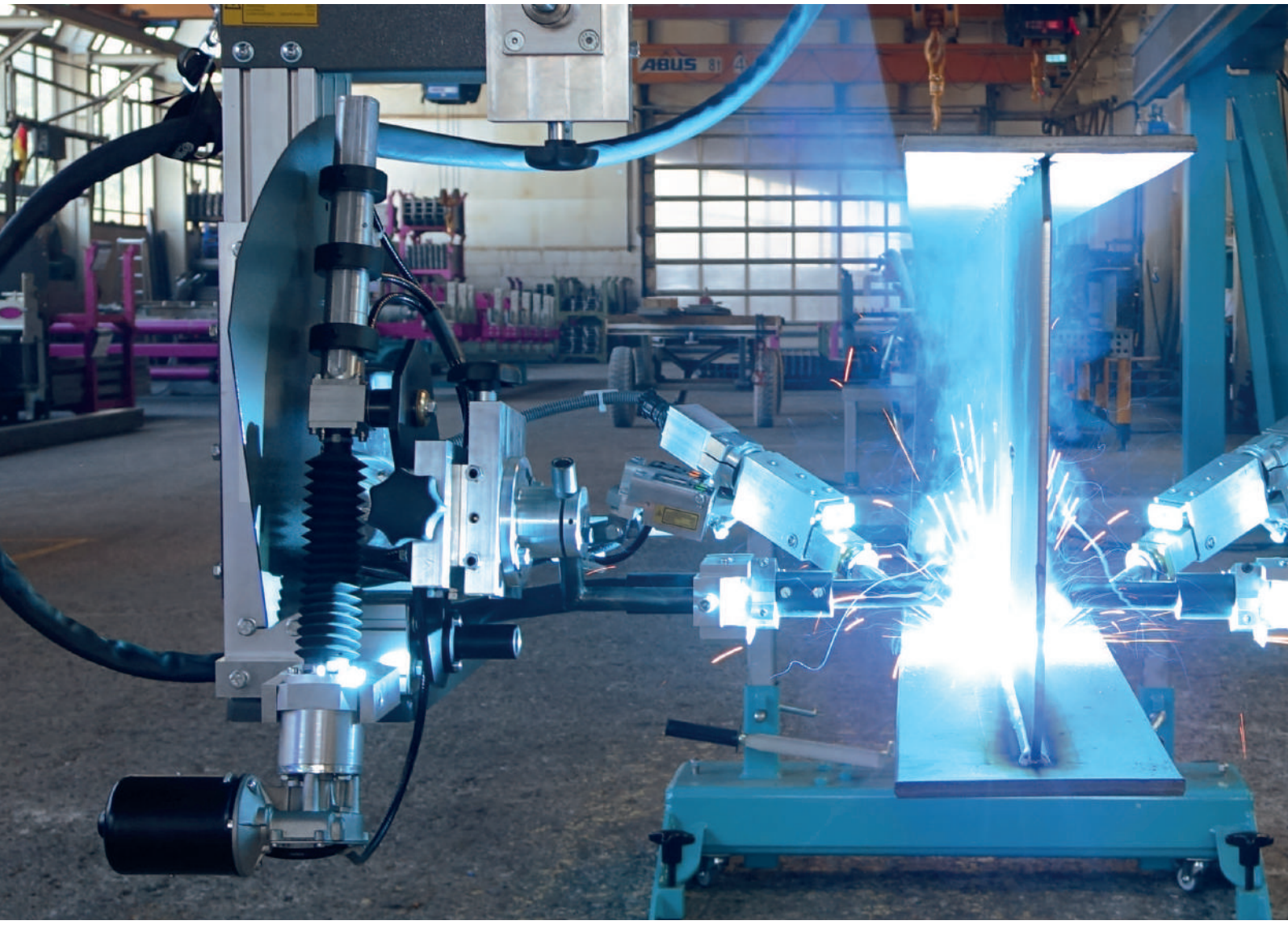
MERKLE

PROJECT REPORT

MÜLLER-MITTELTAL

The highest quality trailer from the Black Forest ■ **Efficiency improvement with new Merkle trailer beam machine**



QUALITY AND INNOVATION IN HARMONY

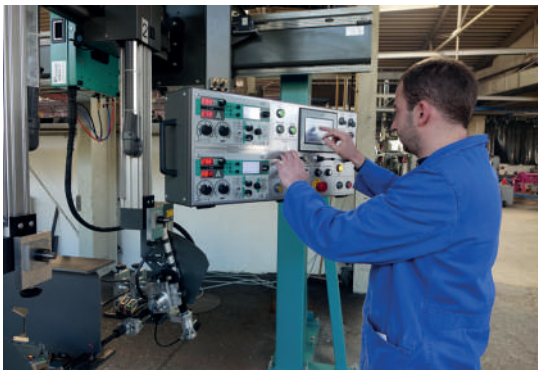
Customer specific solutions manufactured to the highest efficiency.

The market for logistics solutions is as individual as the requirements of different transport companies. In contrast to manufacturers with standard products, Müller-Mitteltal has always been set to custom trailer solutions.

Fore more than 70 years, Müller-Mitteltal has been a reliable partner in the construction industry, of heavy goods traffic and the electricity industry, of municipal, waste management and recycling companies to freight forwarders.

The core of the business strategy is to provide customers with highly modern vehicle technology at a compelling price / performance ratio. The fact that this is possible in today's highly competitive markets has been confirmed by over 50,000 trailers delivered.

Every year 1.200 production units of standard and special trailers are developed by a total of 140 employees on an area of 19,000 sqm.



Traditional craftsmanship, goal-oriented planninga a solid experienced management and ongoing investment in the latest automated assembly technologies characterize Müller-Mitteltal´s brand values.

Müller-Mitteltal stands for a high degree of customization of product solutions and the uncompromising commitment to the highest quality and decided for the technology made by Merkle.

The latest investment in a fully automated Merkle solution for welding of the main frame is the best example of future-oriented manufacturing strategy.

Since almost every trailer is unique by custom details, the main of this investment is to maintain, bothe the highest security in the quality of the welds, and the lowest possibel the processing time.

Merkle supports these objectives sustainably with its welding machines for trailers.

Müller-Mitteltal and Merkle:
A successful partnership!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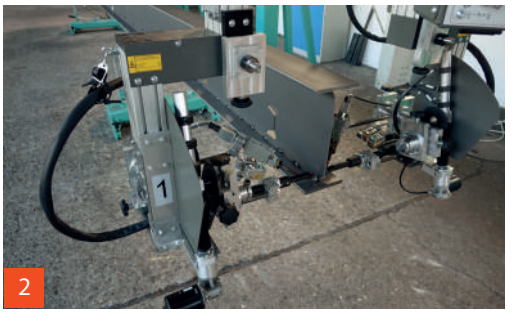
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THE MERKLE TRAILER BEAM WELDING MACHINE

Quality and efficiency for MIG/MAG and PulseARC welding of the trailer main frame.

1 SUSPENDED CARRIAGEWAY:

The carriage is designed to accommodate two torch head systems with scanning and seam tracking. Due to the wide wheel spacing, a high smooth and stable movement of the carriage is ensured .The longitudinal movement, powered by a variable drive motor, is absolutely stable and is monitored by a tacho generator. The highest efficiency is also given by the rapid return and ease of use.

The energy and media supply takes place via a cable hauling apparatus.
The carriageway is structurally designed with a grid dimension of 4 m and may be extended to any length.

2 WELDING HEADS:

Two welding heads arranged on both sides of the workpieces enable the simultaneous welding of both welding seams. Each of the two welding heads consists of the components: vertical slides, horizontal slides, swivel axis, torch holder with welding torch as well as sensor systems for horizontal and vertical scanning. The welding heads are individually selectable, so that all welding tasks (welding right or left or both sides) can be applied.

3 CONTROL:

With a control panel on the carriage all relevant functions are controlled and monitored. For the different component variants jobs can be prepared, so that in case of recurring identical workpieces the process parameters are immediately available.

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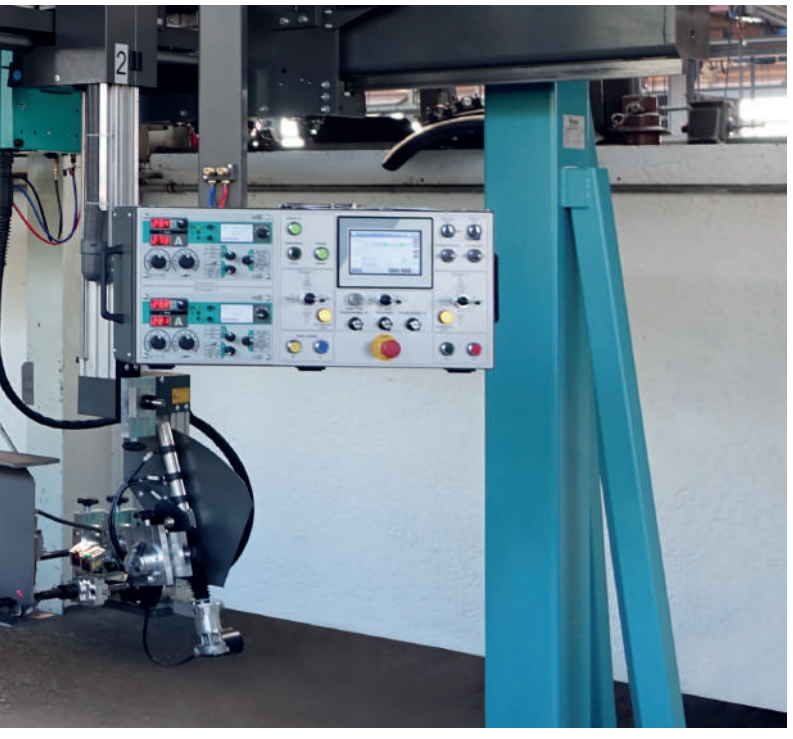
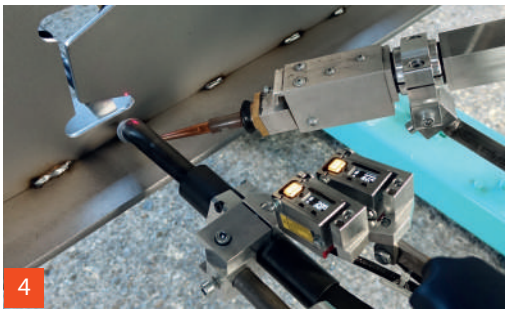


With the Merkle longitudinal welding machine, longitudinal beams may be welded simultaneously and automatically to any length. The construction permits a high economical solution for MIG/MAG and PulseARC welding in different geometrics of fillet and butt weld preparation.

The workpieces can be double-T-beams in a gooseneck construction for trailers, but for example also box profiles for machine and crane constructions.

Merkle achieves with these machines new standards for quality and efficiency.



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4 SENSORS:
The welding system is equipped with optical and mechanical sensors for automatic seam tracking, in order to ensure optimum flexibility for the most diverse beam variants. The sensor units on both sides work separately and independently of one another, each with a torch head. Motorized cross slides move the torch in horizontal and vertical direction. Through the rotating torch heads an optimum torch position is guaranteed for welding of non-horizontal parts.

5 WELDING TECHNOLOGY:
Two power sources HighPULSE 550 RS, specifically designed for use on these machines are integrated. MIG/MAG and PulseARC welding are available in addition to the special processes DeepARC and ColdMIG. The Merkle welding torches MSB 400 W are water cooled and enable due to their small compact construction, a perfect accessibility in tight geometries with small seam heights. Merkle manufactures all the componets of the welding system in-house and therefore has enormous expertise in efficient and safe interaction of all components.

Merkle automated machines:
Technological advance is our passion!


HighPULSE

IN INTERVIEW:

CEO Oliver Hartleitner and Andreas Faisst, production manager at Müller-Mitteltal.

Mr. Hartleitner, first of all, many thanks to you that you are available for an interview with us, here directly in front of the new Merkle trailer beam welding machine in your production hall. With this latest investment you prove again the courage to innovate. Why have you chosen Merkle?

Well, we already know the Merkle products for many years and are highly satisfied with the quality and performance. In this project Merkle has once again proved that they are able, even in such a complex project, to respond to our individual needs.

Mr. Faisst, as production manager, of course, you are always looking for the best solution for your processes. What is so special about the new Merkle system?

The kicker is surely that we can weld a wide variety of frame constructions both in length and design without a clamping device and also simultaneously from both sides. In this way, we ensure that possible distortion problems from the outset do not stand a chance.

Mr. Hartleitner, every investment must be profitable for you as a medium-sized company. What is your initial assessment with the new Merkle beam welding machine?

We are really enthusiastic about it. Through the combination of high flexibility, three different sensor systems and the fully automated welding processes, we are able to reduce the production time of our up to 12 m long carrier beams significantly and thus recoup the investment in the specified period.

How satisfied were you with the project cooperation, Mr. Faisst?

Again, we can absolutely rely on Merkle. After preparation of the specifications, the feasibilities were analyzed and a tight schedule has been prepared, which was complied with to the point. Dirk Schwäble from the Merkle branch in Donaueschingen and our project team members worked closely together and thus contributed to the success of the project.

PROJECT REPORT

MÜLLER-MITTELTAL

- MIG/MAG Welding Units
- Synergic Pulse Welding Units
- TIG Welding Units
- MMA / Stick Electrode Welding Units
- Plasma Welding and Cutting Units
- Welding and Cutting Torches
- Turntables and Roller Drive Units
- Automation Components and Solutions
- Merkle Robotics

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01/2015

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