



Product solutions for Shipyards and Offshore!

Manual, semi-automatic, robotics





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Huge demands are made of welders and the welding equipment in the shipbuilding and offshore production sector. Long welds, thick sheet metal, working in uncomfortable positions, on high scaffolds and in tight spaces are just a few of the situations that prevail in projects of this kind. And of course, the welding seams also need to meet the strictest of quality standards and be completed on time.

Balancing the pressure of deadlines and the demand for quality work

Projects in the shipbuilding and offshore production sector have deadlines that are fixed in contracts.

Overstepping these deadlines can quickly cost the shipbuilder millions in penalties, because the cabins of passenger vessels and spaces on container ships are booked well in advance before the ship arrives in the dry dock. The same also applies for oil rigs and offshore wind turbines where the volume of oil or the electricity produced as of an agreed date is already an integral part of the calculations. As the basic metal structure forms the basis for all subsequent trades, the pressure here is particularly high – the clock starts ticking even before the welders have completed the first welds.

Small wear parts, huge impact

Despite its small size, the quality of a contact tip can be just as decisive for the success and efficiency of a project as the tool life and the flexible deployment of the welding torches and the correct welding method. Because: Each weld must be perfect and fulfil the strict specifications. Even the smallest of reworking tasks or repairs can jeopardise the final deadline. Here, savings potential of several million euros can be achieved in mega shipbuilding or offshore production projects by saving on layers in a weld or a work process, by improving accessibility by means of special wear parts or welding parts without interruption.

For this reason, this brochure contains a selection of our product portfolio that allows process-secure welding that is not prone to malfunctions and is therefore able to meet the time pressures and quality demands of the shipbuilding and offshore production sector.

Capable welders and intelligent robotics

The lack of skilled workers makes the human factor extremely important. The onus here is on professional, well-trained and motivated welders who are able to cope with the demands of working in the shipbuilding and offshore construction sector. On the other hand, smart automation experts are also required to develop intelligent, fast and efficient solutions even for complex tasks. This brochure presents selected equipment that is specially designed to meet the demanding requirements of production environments connected to shipbuilding and offshore construction, and also considers the needs of the welders working on segments. This helps the companies to obtain and maintain a competitive edge in a highly competitive environment.



Large distances – flexible torch necks

The longer the path between the power source and the torch, the more important the welding equipment. Long, lightweight cable assemblies and quick-change torch necks make working so much easier. Torches with selectable programs and settings help to keep things balanced and save the time-consuming path to the power source. Thanks to the spare necks that can be exchanged quickly and easily on site, there is no need to take the long path to the material issue and maintenance points: this reduces downtimes and improves productivity.







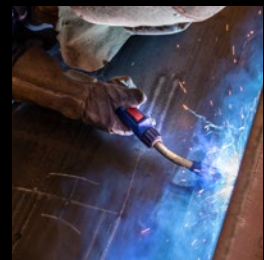
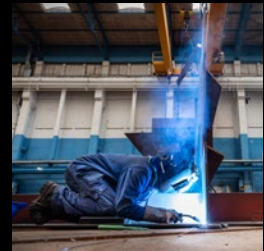
ABIMIG® A T / ABIMIG® T L

Flexible, lightweight and extremely efficient

The segmental construction method with the associated tight spaces that is common in the shipbuilding sector and on large complex parts in the offshore sector demand everything from the welders and their equipment. Due to the constant time and cost pressures, it is essential that the welding torches work flawlessly and can be used flexibly. Also, standard torches should be used if possible.

Air-cooled and highly flexible

The air-cooled ABIMIG® A T and ABIMIG® T L torches are extremely durable and can be adapted to the welding task via the T-interface at all times. Therefore, the torch neck can be simply twisted into the required position or the neck can be replaced with one of a different length or angle within seconds. This facilitates welding in difficult positions and reduces physical assertion considerably.



Ergonomic and lightweight

Thanks to their ergonomic handles, innovative and weight-reduced cable assemblies, the longer tool lives of the wear parts and other options, such as long and short bend-protection or buttons, the torches are an excellent choice for the special requirements and constantly changing tasks common in shipyards and offshore production environments.

Easy continuous welding without stopping

Like the air-cooled ABIMIG® torches, torches of the ABIMIG® W T line can be equipped optionally with up/down modules for remote regulation of the settings on the power source. This means a weld can be produced in one step, even if the parameters in the process need to be changed. This avoids the interruption of the welding process and therefore the risk of edge-bonding errors, material distortion or a different A-dimension.

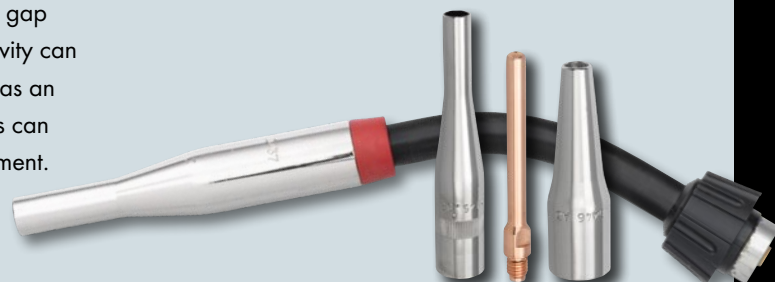


Long cable for flexibility

The further the welder enters the inside of the ship, the more important it is to bridge long distances easily. To ensure that the power source does not need to be taken into tight chambers, intermediate cable assemblies need to be installed between the wire feed unit and the power source. This means that no expensive push-pull torch is necessary, even at distances of up to 35 m. The ABICOR BINZEL modular system can be used to assemble the matching intermediate cable assembly for air-cooled welding torches quickly and simply. And if the standard 5 m cable assembly on the torch is not long enough, there are alternative packages of 6 or 7 m in length available.

Perfect interaction of man and machines

There is a large selection of special equipment, such as narrow gap gas nozzles, available for very difficult tasks. Also, the productivity can be increased considerably by ensuring that each welder also has an additional identical torch neck. In case of problems, torch necks can be simply replaced – there is no need to visit the repair department.





ABIMIG® W T

High-performance, durable and flexible

When joining parts to build ships or produce offshore constructions, the requirements made of the weld are very demanding. If a duty cycle of more than six minutes is necessary, or if a dual-layer or multi-layer welding method is applied, liquid-cooled ABIMIG® W T torches are often a very good option for welders.

Clear benefits over air-cooled torches

Many parts, particularly in the basic structures of ships, oil rigs or wind turbines, need to be prewarmed so that they cool down more slowly after welding. This reduces the risk of cracks, but also increases the demands made of welding torches. Liquid-cooled torches are designed for precisely these applications and their active cooling circuit absorbs the radiated heat much better than air-cooled torches; they also dissipate the heat more quickly.

Optimum cooling of the wear parts

Thanks to the integrated cooling, ABIMIG® W T torches ensure longer tool lives of important wear parts, for instance the contact tips. Their good cooling properties mean that they are form-stable and need to be replaced much less frequently. The high-performance wear parts of the liquid-cooled torch are also available in many special versions, for instance as narrow gap gas nozzles. Combined with the rotating and replaceable torch necks, welders can design the torches precisely to meet their own needs and also the complex tasks in the shipbuilding and offshore sector.



Easy and continuous welding without stopping

Like the air-cooled ABIMIG® torches, torches of the ABIMIG® W T line can be equipped optionally with up/down modules for remote regulation of the settings on the power source. This means a weld can be produced in one step, even if the parameters in the process need to be changed. This avoids the interruption of the welding process and therefore the risk of edge-bonding errors, material distortion or a different A-dimension.





Increased mobility – healthier welding

Tight corners, inaccessible points, poor air – anyone familiar with the difficult conditions inside ships knows how important lightweight, flexible and easily adjustable welding equipment are. For instance, torches with a lightweight cable assembly and effective and easy-to-handle solutions for fume extraction.







MB EVO PRO air-cooled

Absolute operating ease and perfect handling

Welding equipment in shipyards and offshore productions should be lightweight, durable and ergonomic. Due to the immense cost pressure, it should also offer a good price-performance ratio. Lots of welders know and appreciate the ABICOR BINZEL's MB torch line. The handle fits very well in the hand, the air-cooled torches have a good balance, the button position is ideally placed and the pressure point of the button is familiar.

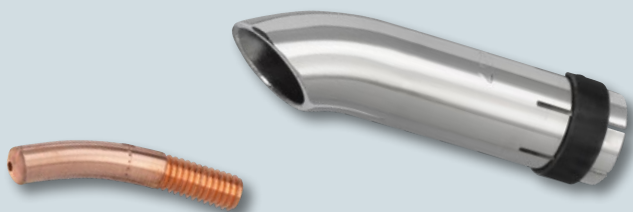


Lightweight cable assemblies – easy working

Thanks to its weight-reduced cable assemblies, the air-cooled MB EVO PRO torches have decisive benefits, because the stress on the welder is significantly reduced in many overhead applications. Studies by ABICOR BINZEL prove that lighter cable assemblies not only mean less stress on the welders, but also lead to significantly improved welding results compared to torches with conventional cable assemblies.

Quality saves time and money

All welds are particularly important in shipbuilding and offshore production environments, because reworking is difficult, expensive and always needs to be avoided. There is a wide range of special equipment for the air-cooled MB EVO PRO torches, for instance bent contact tips and gas nozzles for perfect accessibility even in difficult areas.





RAB GRIP HE / FEC

Perfect duo for clean air

Harmful particles are released when welding in shipyards and in offshore productions, which is why limit values are defined for the workplace. High-performance extraction systems consisting of an extraction torch and mobile fume extraction unit ensure excellent welding results and health protection – air or liquid-cooled in the hall or in the dry dock, in tight spaces or when welding stainless steel in interior construction.



Fulfilling strict quality requirements

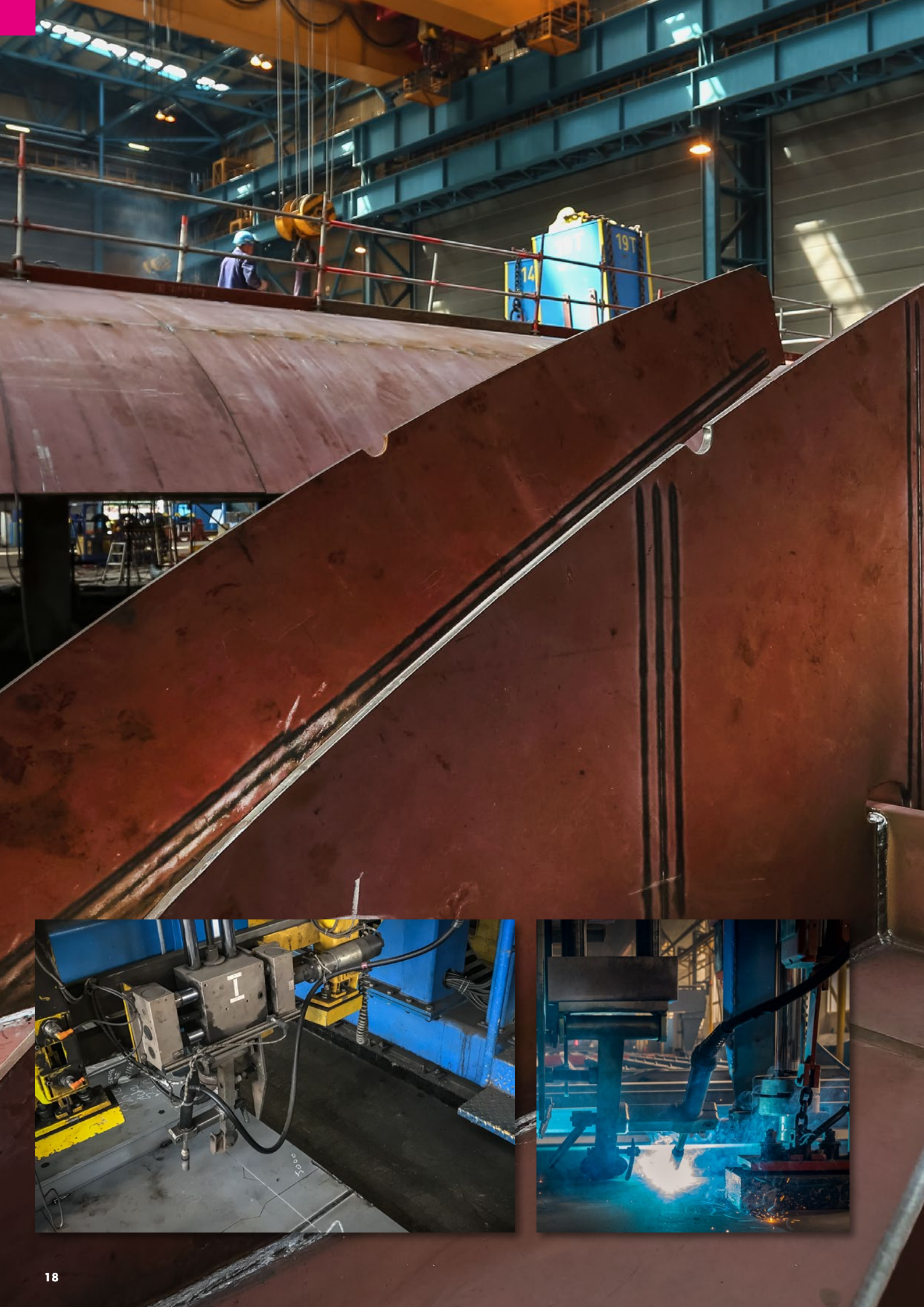
Despite the difficult and, in some cases, under extreme conditions, welders are responsible for the quality of their own work. Each individual weld is tested; pores and cold points are taboo. The demands made of the welding equipment are obvious: absolute performance and also excellent accessibility, small construction sizes and low weight. At the same time, they also need to be durable enough to meet the welding requirements in harsh environments.

Reliable protection of health

In addition to the quality of the weld, the focus is increasingly shifting to the health of welders and their colleagues who often work without ventilated helmets. The new fume extraction system consisting of a RAB GRIP HE welding torch, with integrated fume extraction, and a mobile FEC fume extraction system, which has been specially designed to meet the complex requirements of the shipbuilding and offshore construction sector.

Perfect handling, thorough extraction

The ABICOR BINZEL extraction system removes harmful vapours and particles from the workplace reliably, bringing the levels to below the statutory limits. Thanks to the ergonomic handle and the use of a standard gas nozzles, the welder can easily switch from a standard torch to a fume-extraction torch, and the handling is familiar from the outset.



Strong torch output – long duty cycle

Long welds are like a marathon run for welders and torches. Highly durable torches that guarantee long duty cycles and performance reserves without compromising the quality of the weld are required for successful results. This is why the frequently water-cooled manual and automatic torches on portal systems or robot torches are used.





MB EVO / MB EVO PRO liquid-cooled

Always cool, even when things get hot

Many standard welding tasks connected to inner construction work at shipyards and in offshore construction environments require long duty cycles so that welds can be created cleanly and quickly in one step. Liquid-cooled MB EVO / MB EVO PRO torches are perfectly suited for these requirements and, thanks to their technical adjustment, they ensure a better coolant flow. In turn, this extends the tool life of the torch necks and wear parts significantly.



The work horse among the welding torches

Liquid-cooled MB EVO / MB EVO PRO torches are guarantees for process-reliable welding, excellent welding results and pleasant working, because the torch necks simply remain cooler. This is particularly important if the worker uses his other hand to guide the torch neck.

Many adaptation possibilities

With a broad range of special equipment, such as different torch neck bends, narrow gap gas nozzles or bent contact tips and gas nozzles, the liquid-cooled torches can be ideally adapted with respect to handling and accessibility in forced positions.





Automatic torches

Proven a thousand times

Frequently, semi-automatic welding solutions are used when manufacturing series parts in shipyards and in the offshore area that need to be fitted in segments later. If the output of the torch is sufficient for the weld and the plate thickness, air-cooled systems are often selected because they are easy to install and operate in portal systems in production halls and the media hoses installed in the cable track are streamlined. If the duty cycle and the specified performance are high, liquid-cooled automatic torches are used.



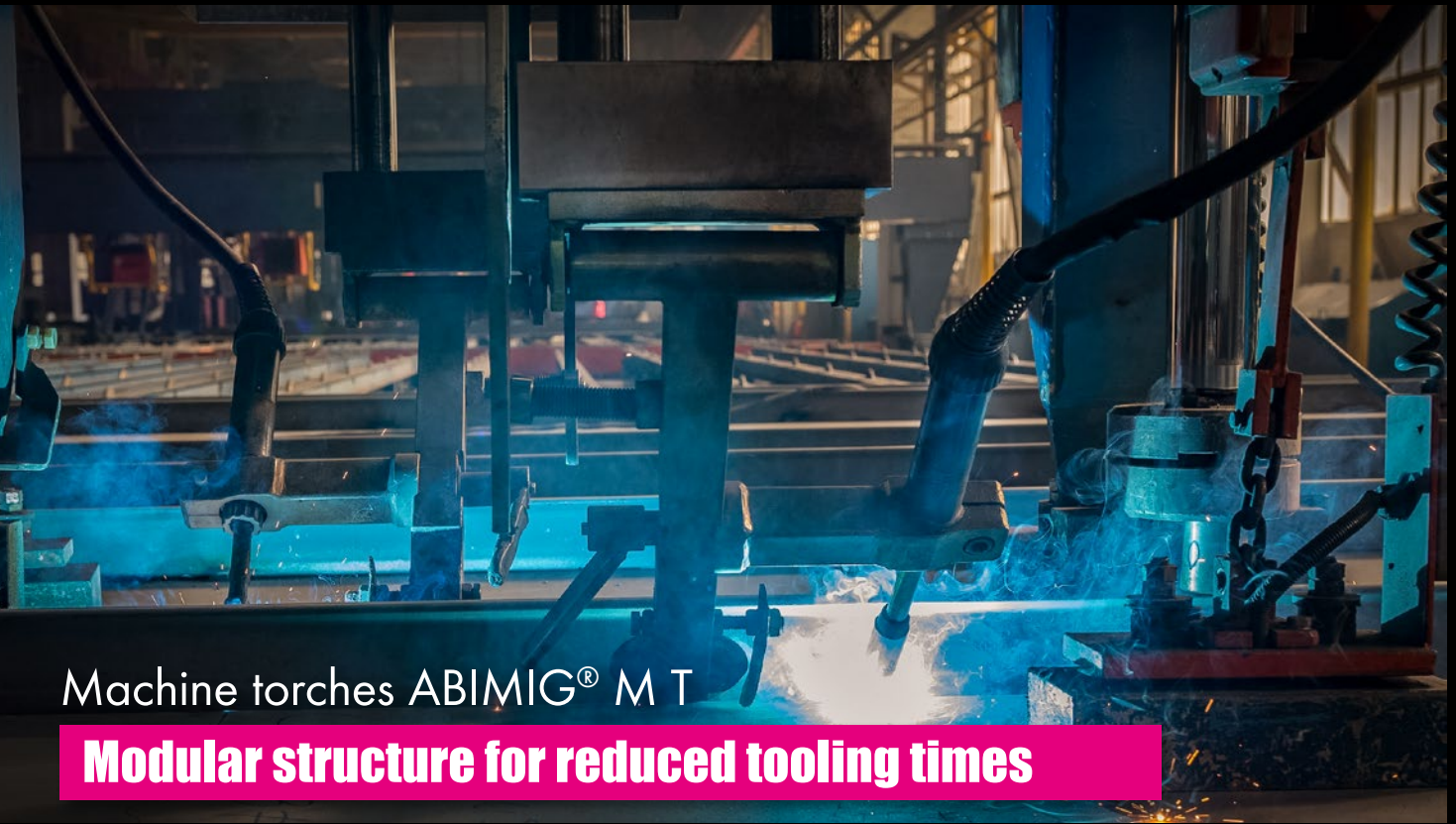
Simple and efficient for series parts

Air-cooled AUT torches by ABICOR BINZEL with MB wear parts are inexpensive, reliable tools wherever series parts are welded that do not require changing geometries of the torch necks and do not require long duty cycles. They are also extremely durable thanks to the ABICOR BINZEL coaxial cable 'BIKOX®'.

Highly durable in series production

If a liquid-cooled high-performance automatic torch is required, the ABIMIG® 645 with its large cooling body and special cooling system can be loaded with up to 600 Ampere very close to the process. It has innovative pluggable contact tips with a 'click system' for better current transfer and a solid, short gas nozzle. As a high-performance automatic torch, it has also proven itself in many ship-yards and offshore production halls.





Machine torches ABIMIG® M T

Modular structure for reduced tooling times

Machine torches are the ideal torch solution, if large quantities of frequently changing parts that can be welded in a semi-automatic method are required. The tooling time is a decisive factor when selecting the torch list. The modular structured ABIMIG® M T machine torch system by ABICOR BINZEL comes into its own here. Be it air or liquid-cooled: Only one cable assembly of the highest performance class for the portal system or the tractor is required; the torch necks are kept on stock separately.





Change torch neck without TCP setting

The torch necks that can be used with the ABIMIG® M T machine torch can vary in length or in the bending form, or may be equipped for example with narrow slit gas nozzles. Even torch necks of the manual ABIMIG® torch series A T and/or W T can be used; investments in these machine torches is therefore low. When tooling for a part that has already been welded, only the torch neck needs to be changed – the work point (TCP) corresponds precisely. This saves an enormous amount of time for setting the TCP that would be necessary if the entire cable assembly needed to be changed.

Absolute durability guaranteed

The high-quality ABIMIG® wear part concept with thick-walled, specially insulated, screwed gas nozzles ensure absolute performance capability and generous performance reserves. The design guarantees very good gas coverage and the laminar gas current and/or the gas flow ensure a safe continuous welding process.



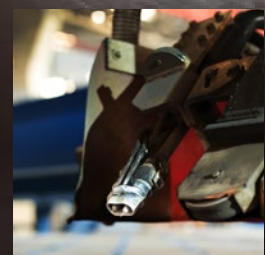


Tandem WH W 800

Absolute weld quality

Twice the performance – easy handling

Particularly thick sheet metal parts are welded on the ship's rump and the foundation structures. In turn, this requires extreme amounts of energy and material in various layers. High-performance tandem torches can be integrated flexibly in the portal systems and ensure even and long-term stable welds at high welding speeds.



The WH Tandem W 800 in conjunction with an iROB dual-pack power source is the perfect welding equipment to improve productivity and weld quality for thick sheet metals and long welds.

ABIROB® W 500

Intelligent and versatile

Standard profile – Innovative solution

Holland profiles are the classic profiles used when producing ship segments, and are usually welded in a complex process from both sides. A completely new process has been developed with a special characteristic curve and narrow gap equipment on the robot welding torch allowing durable joining of H-profiles by means of one-sided through-welding. This not only saves time and money, it also delivers better welding results.



Narrow gap – thick sheet metal

Robot welding is particularly suitable for long welds and coarse welding tasks; however, robots are rarely used in multi-layer welding processes to join sheet metal that is 30 – 50 mm thick. Despite the fact that with optimised parameters, high-performance torches and a special newly developed narrow gap gas nozzle geometry, it is possible to produce perfect connections, from the root run through to the covering top layer.





Cold points – new welds

Repair welds are annoying, complex and often prone to faults. Therefore, each individual weld in shipyards and offshore projects needs to be checked to ensure that all edge connections are optimal. To work as efficiently, safely and cost-effectively as possible from the preparation through to the long-term stable seam, powerful gouging torches, good electrode holders and matching cored wire torches are essential. The optimally coordinated welding chemistry is an important factor for creating a perfect weld.



Gouging torches of the K-series

Durable and extremely robust



The first and foremost priority of ship builders and the offshore sector is to create flawless welds. If however a weld does need to be removed so that it can be rewelded, gouging torches are used. ABICOR BINZEL supplies gouging torches that stand out thanks to their high level of reliability, ruggedness and durability. The models of the K-series are designed so that they will, theoretically, last forever – all important parts can simply be replaced. We recommend the high-quality TEAM BINZEL® ABIARC carbon electrodes made of artificial graphite and coated with pure copper for the gouging torches.



TEAM BINZEL® gouging torches

Easy handling – internationally tested

Many welders across the world are familiar with the shape and the use of the TEAM BINZEL® gouging torches, which are known for their handling ease and reliable gouging properties. We recommend the high-quality TEAM BINZEL® ABIARC carbon electrodes made of artificial graphite and coated with pure copper for the gouging torches.



Electrode holders

Flexible repairs, welding in any position



Whenever noncritical parts on a ship, an oil rig or wind turbine need to be repaired quickly and reliably, the classic Black & White Style electrode holder by ABICOR BINZEL is the perfect choice whatever the weather. These rugged and reliable electrode holders are often selected for vertical-down welding at difficult-to-access places when installing pipelines – a supreme discipline for any welder. They are designed to be indestructible, which is why all important parts can be replaced quickly and easily.



As a rugged process, welding with electrode holders offers clear benefits for repair welding. It is also the preferred method when welding the often kilometre-long pipelines on board wherever it is not possible to bring the pipe into a position that is easy to weld.

ALPHA FLUX

Can easily be used anywhere

It is often very draughty when working in shipyards and offshore situations. The temperatures can be extremely low or also very high. The ALPHA Flux is a torch that can be used for welding anywhere whatever the weather conditions because it does not need any protective gas. This means it is ideally suited for welding in places that cannot be reached with a gas cylinder, for instance repair work, modernising ships or on offshore constructions. The sheathing around the filling wire offers a protective zone for the arc. The process is durable and safe. The cable assembly is designed to remain highly flexible even at temperatures of up to minus 40 degrees. This facilitates welding even in extreme climatic conditions.





Welding chemistry

Innovative, secure, sustainable

Super pistol spray

Increases the productivity of welding torches

There may be hundreds of welding torches working at any one time when constructing ships or working on offshore constructions. We recommend using the super pistol spray by ABICOR BINZEL to reduce spatter adhesion on the gas nozzle and increase the tool life of wear parts. Coating the gas nozzle after spraying ensures easy removal of welding spatters. It should be noted that the super pistol spray should not be used on the part or workpiece, because these cannot be painted over later.

ABIBLUE

The nightmare for weld spatters on components

ABIBLUE is a great solution for effectively protecting adjacent welding areas on a part from spatters. The blue colour component makes it easy to recognise the area that has already been sprayed. Welding splashes can be simply wiped off, and the part can then be painted.





Coolant BTC /BTC NF

Well cooled is half the battle

Every power source for liquid-cooled welding torches in a shipyard or in a production hall for offshore products requires coolants in the tank. Depending on the works norm and climatic conditions, the BTC 15, the non-flammable BTC 20 NF or the BTC 50, which can be used at up to minus 50 degrees, can be selected. All coolants by ABICOR BINZEL ensure optimum cooling of the power source.





Innovative professional welding equipment

Manual, semi-automatic, robotics

Manual MIG/MAG welding is still the most popular joining method for constructing ships, oil rigs and wind turbines, although, increasingly, semi-automatic and automatic processes are being used. Durable and intelligent welding technologies help to ensure that welding tasks are completed more quickly, efficiently and to a better standard.



Alexander Binzel Schweisstechnik GmbH & Co. KG
Kiesacker · 35418 Buseck · GERMANY
Phone: +49 (0) 64 08 / 59-0
Fax: +49 (0) 64 08 / 59-191
E-Mail: info@binzel-abicor.com

www.binzel-abicor.com