

Tradition.
Performance.
Partnership.

MESSER 
Cutting Systems

Part of the Messer World 

The Original is
unmistakable

Tradition.

Original Messer

The synonym for cutting machines

Tradition.

Performance.

Partnership.

A flame cutting machine is often referred to as a “Messer Machine” – regardless of which manufacturer it actually comes from. In the 100 years of company and industry history, Messer has established itself as a synonym for excellent cutting technology. Many technological milestones from this establishment have become the industry standard – a “Benchmark” – for cutting technology. This will remain so in the future.

Laser, Plasma or Oxyfuel – which process is the best suited for your application? Messer Cutting & Welding, Groß-Umstadt/ Frankfurt, is today the one stop supplier for Oxyfuel, Plasma (Dry or Underwater Plasma) and Laser cutting machines. In other business units we produce gas supply systems and “The Whole World of Oxyfuel Technology”. With our subsidiary, MesserSoft, we also offer software products especially for cutting technology and general software to optimise order based production.

Do you need standard or tailored solutions? Our customers want solutions with which they can stand out from their competition. With us they can select from a wide selection of different product ranges and these basic systems can also be “tailored” to suit your concrete application.

Messer Cutting & Welding is today the one-stop supplier for Oxyfuel, Plasma (Dry or Underwater Plasma) and Laser cutting systems.

1898. Adolf Messer founds the Frankfurt Acetylen-Gas-Gesellschaft Messer & Cie. Acetylene generators are produced in a small workshop in Höchst.

1908. Oxyfuel welding and cutting torches, Acetylene generators and pressure regulators (to name just some) are marketed under the brand name "Original Messer".

1924. The first electric welding tests in the world take place.

1965. Under Dr. Hans Messer, the company Adolf Messer GmbH merges with parts of Knapsack-Griesheim AG (part of Hoechst) to form Messer Griesheim GmbH.

1989. 160 patent and invention registrations show the innovative strength of the organisation. The 2 billion DM turnover mark is passed.

2004/2005. The Messer family takes over all parts of the company again, as well as the Messer Eutectic Castolin Group with the Welding and Cutting division.

Heart and soul for oxyfuel technology

The company history shows that the name Messer has stood for cutting edge technology for over 100 years.

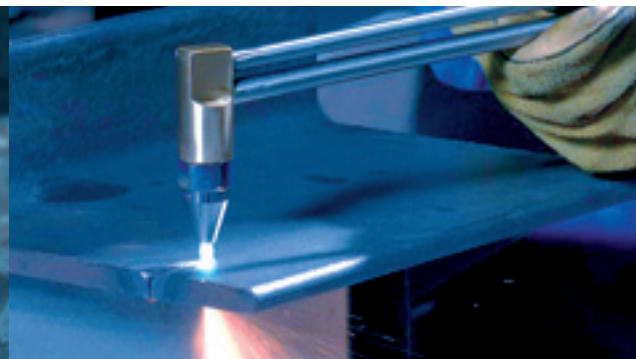
This brief historical extract shows, Messer was the inventor of oxyfuel technology and a pioneer in electric welding. The company has

also made important contributions to the continuous further development of process technology.

Oxyfuel welding



Flame cutting





The whole world of Oxyfuel Technology.

As market leader in the field of oxyfuel technology we offer a complete product portfolio in ORIGINAL MESSER QUALITY:

Cylinder pressure regulator CONSTANT 2000 for all technical gases, in 200 bar and 300 bar technology.

Multi-purpose torch systems. These products are divided into individual product lines according to their main applications. Our oxyfuel torches MINITHERM, STARLET, STAR and SUPER-THERM excel for manual welding, brazing, heating, cutting, flame straightening and flame scarfing.

Hand cutting torches STARCUT and ESSEN for flame cutting of material up to 500 mm thick and for gouging. Naturally, our range of products also includes all matching cutting and gouging nozzles.


Portable flame cutting machines. With the portable flame cutting machines QUICKY, PORTACUT and SECATOR it is possible to make straight line contour and strip cutting on material up to 100 mm or even 300 mm (SECATOR) thick, flexibly and economically. In the case of the QUICKY and SECATOR, bevel cuts are also possible.

Machine cutting torches / Machine cutting nozzle for automated flame cutting processes.

Oxyfuel steel mill equipment. Especially robustly constructed torches for use in the steel casting and rolling mills, in scrap yards and in foundries.

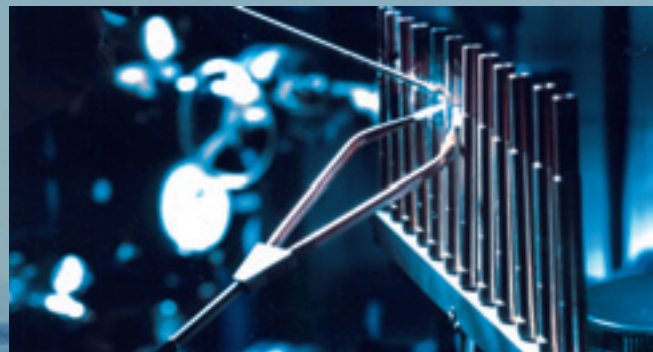
GRIFLAM Heating technology. Our widest complete programme offers solutions for all heating applications, from multi-function, economic standard components right up to automated systems.

The practical portable cutting machine QUICKY, with which weld bevel preparation is possible with a second torch.



If you are too big
for the small things,
then you are
too small for the
big things

MINITHERM: Brazing in the electronics industry



Performance.

Our customers

From shipbuilding to the electronics industry

Tradition.
Performance.
Partnership.

Just as multifaceted as our product range are the tasks presented to us from the wide range of industries we serve: they range from steel and metal working, machine tool and agricultural machine production, the chemical, food and pharmaceutical industries, the manufacture of automobiles, ships, railways and electronic products, right up to medicine, research and environmental technology.

We are often suppliers for small but decisive details here. In order not to be too big for these fine details, and thus too small for the large projects, we support technical training and centres of competence, which concentrate totally on the decisive technical innovations for your branch.



The gantry machine OmniMat® – here with three plasma torches – offers high cutting accuracy and faithful shape following in 24 hour continuous operation.

Heavy steelwork and shipbuilding – Precision by the kilometre

Oxyfuel technology for gouging, cutting and welding – one could no longer imagine steel processing without it.

Our oxyfuel and plasma technology is represented in (every) shipyard on this planet. Equally in the steel industry, mining, the manufacture of railway and building machines – in fact everywhere where the people seem small in comparison to the objects and the plate thicknesses seem very large. In these branches of industry, large plates must be cut by the ton and then welded by the kilometre. We supply the technology which makes this possible, both very accurately and very economically.

OmniMat® – our Heavy Metal Workhorse.

This machine is solidly built so that it can carry and guide even the heaviest heads accurately. The CNC controlled cutting machine with high load-bearing gantry design, twin-sided longitudinal drives and precision guide sections, offers you high cutting accuracy with a faithfulness to the contour shape, even in 24 hour operation. Whether oxyfuel, underwater plasma or dry plasma, whether vertical cuts or bevel cuts, the OmniMat® is the ideal solution for the



Every day tons of raw plate are cut on Messer machines and then welded by the kilometre.

Skew Rotator, the most successful plasma bevel cutting unit in the world

toughest operating environments. Working widths of up to 7.800 mm and positioning speeds of up to 35 m/min reduce the unproductive time to a minimum. This means you are well ahead of your competitors.

Bevel cutting – the royal class in building ships and containers. Bevel cutting requires an exact knowledge of the machine and the cutting processes. Corners, lead-ins and run-outs have to be cut with special cycles if the

required quality is to be achieved. Bevel cutting also places high demands on the programming of the cutting plan. Special auxiliary functions are needed to set the units up for bevel cutting. For example, with plasma bevel cutting, cuts must be repeated if the preparation consists of multiple bevels. It may be necessary to offset the cutting contour to a parallel one or the unit may have to be offset laterally. Depending upon the cutting process, special start of cut geometries may be required. Additionally, the

optimum technology parameters such as drive speed and cutting energy has to be matched to the bevel to be cut. Sounds complicated, and it is. But these are exactly the small specialities which characterise a "Messer Machine".

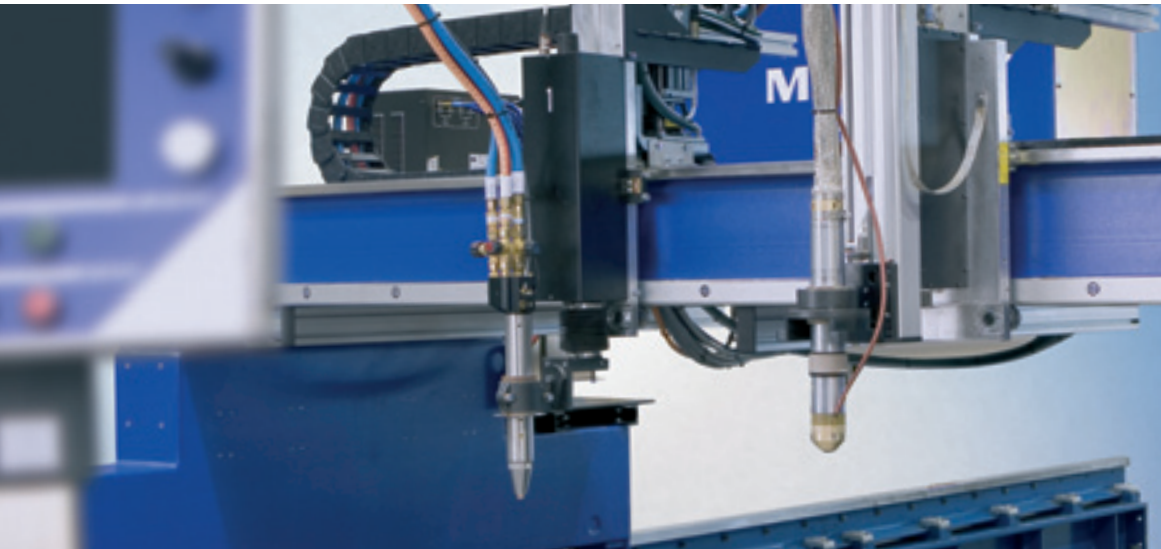
Cutting and Marking Tools – the complete range. Depending upon the application, we offer the most divergent equipment: For simple flame planing cuts the swivelling oxyfuel triple torch head N or the plasma cutting unit PKS. Infinitely rotating triple torch systems for bevel cuts X, Y und K operate completely automatically. Examples are the DAFL unit and the Skew Rotator, the World's most successful plasma bevel cutting head. Unlimited rotation of the C axis and bevel cuts up to 45° can be made with it.

LaserMat® – the technology leader for large plates. Our LaserMat®, with working widths of over 4.1 m and table lengths up to 40 m, is predestined for large format plates. This CNC controlled laser processing system offers high component accuracy thanks to linear guides for longitudinal and transverse motion. As the resonator rides on the machine in the X direction and has a 100 % beam path compensation in the Y direction, the cutting quality remains consistently high over the entire working area. Its performance with highly dynamic positioning speeds of 60 m/min for each axis, acceleration up to 0.4 g, 4 to 8 CNC axes with a resolution of 0.001 mm and that over such enormous working areas, is unique in this combination.

*Fast working marking processes:
generally essential in metal processing*

LaserMat®: The Laser resonator rides piggyback on the machine. This guarantees a consistently high beam quality over the entire working area.





Contract cutting – It pays here to have Messer

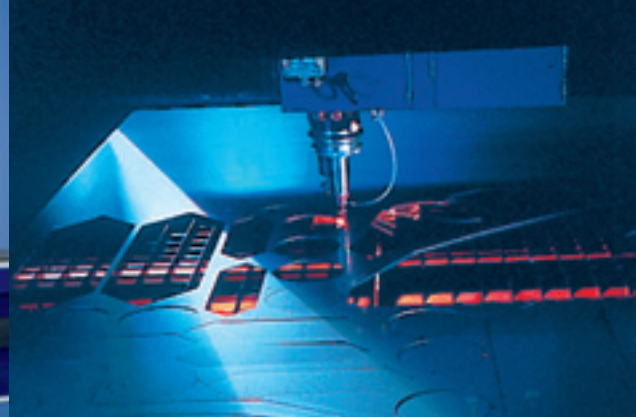
What use is quality and economy to the customer? What does that mean to us as machine supplier? We supply the necessary application technology and optimum plant technology, to ensure the highest cutting quality and productivity. Take Plasma or Laser cutting: Our highly dynamic machines make possible the maximum cutting speed allowed by the process. So we have concentrated on reducing non-productive times in our innovation: a fast cut initiation and an optimum process speed (even on sharp corners and small radii). The result is a range of cutting machines

with extremely high positioning speeds. Advantage: The processing time for your nested plan will be drastically reduced. High accelerations and the fast rapid travel speed between piercings benefit you with all the processes used. It is particularly noticeable with fast cutting processes such as Laser and Plasma cutting, or with marking processes. Our Global Control, which we developed in house, is, with its high cycle frequencies, particularly matched to the high machine dynamics and process technology.

The flexible portal machine MultiTherm can be equipped with parallel oxyfuel and plasma cutting units.



Global Control: Currently the most modern and powerful cutting machine control.



The Laser in metal processing – precise and fast

Frequently changing tasks, material types and thicknesses are characteristic of daily production life in the contract cutting shop.

The Gantry Machines. Gantry systems are extremely modular guiding machines which can be adopted to suit customer-specific requirements. With them you can combine the most different cutting processes with each other or compliment them with additional units for bevel cutting, marking, drilling etc. Our OmniMat® or MultiTherm can be specially equipped with oxyfuel for thick plates and with plasma cutting heads for other material thicknesses.

MultiTherm. A compact cutting machine for the plasma and oxyfuel processes is our multi-process system MultiTherm. With one cutting head this machine masters several processes: precision plasma cutting, line and spot marking. A robust economical oxyfuel torch can also be integrated. For all those, who like things to be a little easier, we have the entry level model MultiTherm^{eco} in the range.

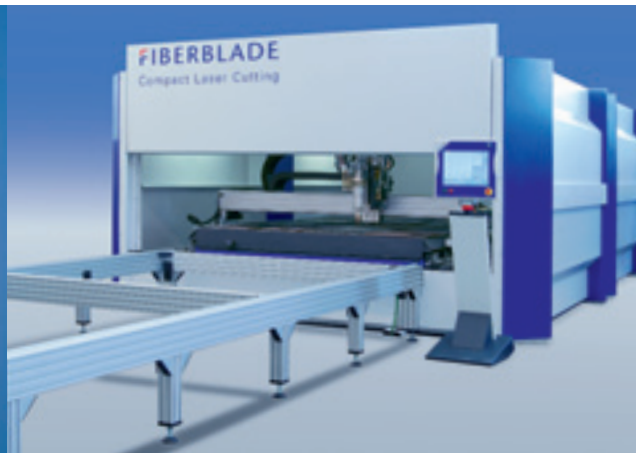
The Flat bed machines

MetalMaster – the precision plasma cutting system. The MetalMaster is a special high performance machine for plasma. It is a compact unit for both precision and conventional plasma cutting with an integrated fume extraction table. The MetalMaster for plasma cutting and the FiberBlade for laser cutting are both designed as flat bed cutting systems which are simply selected by track gauge and working length.

FiberBlade – the Laser cutting system with fibre technology. The beam source of the laser cutting machine Fiberblade is a highly efficient and energy saving fibre laser. As it contains no moving parts and the emitter diodes have a very long lifetime, the maintenance costs are very low. Because the beam is guided through a glass fibre, expensive adjustment work is also no longer necessary. The machine thus meets all expectations for simple operation, low costs and high reliability.

MetalMaster: The plasma cutting system in flat bed design

FiberBlade: The Laser unit is very compact and easy to use.





Your competent partner for solutions suited to your application

Process demonstration in the Applications Centre, Groß-Umstadt.

Retrofit: it doesn't always have to be a new machine.



Partnership.

Service and customer orientation

We take it personally

Tradition.
Performance.
Partnership.

The areas of application of our equipment and machines are tailored specially to their individual application. Messer employees know the application situation in your branch and can give professional advice on the selection and optimum configuration of the system and on application technology.

Training and Retrofit with Know-How about the applications. Our Know-How in application technology helps you to optimise your production processes. Our experts impart practical tips in training or on-site visits. In Groß-Umstadt, Messer Cutting & Welding operates its own technical training and application centre, which offers training specific to products and branches of industry. And we have a special department which specialises in the upgrading of older systems, for those cases where a new investment cannot be justified.

Spare Parts and 24 h After-Sales Service. We have over 5.000 active systems world-wide for which we can supply spare parts and service efficiently. Our qualified service engineers can reach any site in the world within 24 hours. Also spare parts are usually supplied next day.

We are a medium sized company! We reach our goals through competent and motivated staff who are proud of "their" family – our company.

Software – Solutions for thermal cutting

The link between the engineering and economical platforms

MesserSoft is the software partner in the PPS/ERP environment for customers of Messer Cutting Systems. Our subsidiary develops and markets solutions for the integration of our Messer Engineering technology into the production-linked and economic sequences at our customers world wide.

Machines and software from one supplier ensure smooth coordination of all processes

throughout the entire value generation. This enables our customers to achieve the best use of resources with a clear overview of the investment volumes. From the preparation of the offer right up to cost review afterwards. From the design of the part, through the creation of nested plans, the transfer of the plans to the machines and finally the cutting of the parts.

OmniWin takes care of all cutting tasks which arise. Perfectly matched to the multi-faceted needs of an order based production with CNC controlled cutting machines. Whether with low quantities, in engineering and plant construction right up to just-in-time order production with



MesserSoft is the supplier of IT solutions for thermal cutting.

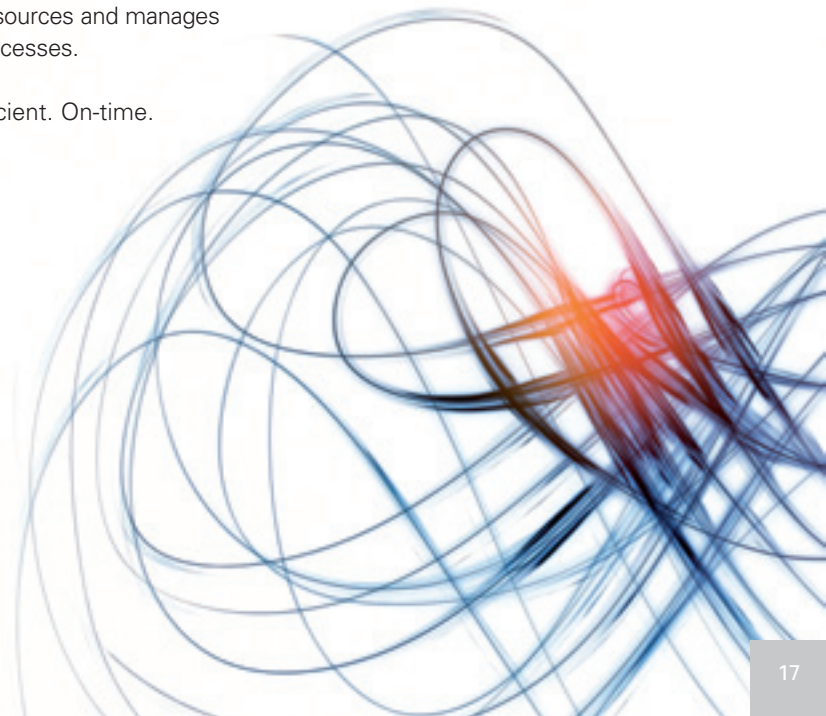
changing quantities in a steel stockholder, OmniWin can be used effectively and economically. Special cutting processes such as bevel cutting, the cutting of geometric developments, panels in ship-building or strips is taken care of by the well established OmniBevel.

OmniCalc is the modular software suite, which offers for the first time a complete solutions platform for order based production. With OmniCalc, users can optimise their process based tasks. They integrate their production world quite simply in the world of ERP. Economic operations become transparent and and resources can be planned and calculated.

With the calculation of exact costs and throughput times, OmniCalc creates quotation or order calculations in seconds. Production planning and production control makes processes transparent, reproducible and reliable. People, machines and materials can be used ideally. Factory Data Capture actively controls production and monitors the results. A professional cost review identifies and deals with cost drivers, recognises key turnover sources and manages active processes.

Fast. Efficient. On-time.

OmniWin, OmniBevel and OmniCalc from MesserSoft ensure that customers of Messer Cutting Systems can produce, fast, efficiently and on-time.





Application-oriented training

Training and Applications Centre

Customer orientation has been one of the pillars on which the extraordinary corporate success of Messer has rested right from the very start. Not least of these has also been the innovative and demanding technology of the Messer machines. They open new possibilities for our customers to meet the highest demands for quality and productivity in their companies. However even the best technology can only convert what the operator puts in. For this reason, Messer wants to ensure that our customers are able to use their machines and equipment in the best way to suit their own

requirements. We would also like to open up to you new horizons which exceed your current demands, to equip you for future challenges. For we see ourselves as responsible for the passing on of practical knowledge gained over the years to our customers. This urge to enable our customers to use their machines optimally has found expression in our newly opened training centre in Groß-Umstadt. There our technical specialists impart to the trainees in a practical manner, the knowledge they need to make the best use of the many faceted possibilities of their Messer machines.

Sustainability and environmental protection – For the sake of our children

We concentrate on the best solution for our customers technically and economically. As a family concern with a long term, consistent standpoint, we also watch out for the interests of coming generations. For this reason we always pay attention to protecting the environment and the conservation of the limited resources of our earth. So our modern fume extraction tables and filter systems contribute

to the protection of the environment outside and the working climate inside. Our process technology strives for resource conserving application of energy and consumed materials. Messer also places great value on meeting the highest possible standards in health and safety. Our services include information and training on the handling of the gases used in our equipment.

We think in generations.



Experts in all facets of thermal welding & cutting

1. Messer Cutting Systems in Groß-Umstadt near Darmstadt The world-wide market leader for large thermal cutting machines with a global platform strategy.

2. Messer Oxyfuel Equipment & Gas Control Systems in Frankfurt/ Main The specialists for the development and production of equipment and plant for oxyfuel welding and cutting as well as for gas control systems and gas cabinets.

3. Messer EnviroTec Manufacturer of plant based environmental equipment. Besides the standard Messer cutting tables and the new filter range "ZLine", Messer EnviroTec also offer special solutions to meet customer requirements. The scope of services include the complete installation with all ducting and commissioning of the units on site.





Our production facilities world-wide

1. Messer Cutting Systems Brazil We have our own production facility in Brazil for cutting machines.

2. Messer Cutting Systems, USA The basis for our business in the USA and Mexico – MG Systems & Welding Inc., USA founded in Menomonee Falls, Wisconsin in the year 1973.

3. Messer Cutting Systems, China In Kunshan, near to the special industrial zone of Shanghai, we produce cutting machines to the highest quality standards.

4. Messer Cutting Systems India One more production facility in India supplies the dynamically growing industry of this subcontinent.



MESSER 
www.messergroup.com

Part of the **Messer World** 

Messer Group – Joined in expertise

Messer is recognised as one of the leading industrial gases companies world-wide. The international activities are guided from the Frankfurt am Main region, the control of the technical central functions logistics, engineering and production as well as applications technology comes from Krefeld.

The Messer Group

- is active in more than 30 countries with about 60 operating companies
- has over 120 own bases in Europe, Asia and Peru
- operates six specialty gases plants in Europe
- owns 81 filling stations for technical gases in Europe
- produces world-wide in 37 air separation units (10 more are under construction)
- works in cooperation with more than 1.200 gas centres

One emphasis in the product portfolio is gases for welding and cutting, which are marketed under easily understood trade names, such as Ferromix, Inoxmix, Alumix, Megalas and forming gas.

From Acetylene to Xenon – from A to Z

The Messer Group produces industrial gases such as oxygen, nitrogen, argon, carbon dioxide, hydrogen, helium, welding shielding gases, specialty gases, medical gases and a wide range of different gas mixtures. In most modern competence centres for research and development, the Messer Group develops application technology for the use of gases in almost all branches of industry, in food processing, medicine as well as research and science.

Welding gases for mild and stainless steels



Welding gases for aluminium and special steels





Part of the Messer World 

Castolin Eutectic – Your resource for protection, repair and joining solutions

Castolin Eutectic is one of the world-wide leading manufacturers of products and application technology for welding, brazing, surface coating and wear protection, and plasma technology. This includes welding rods, wires, shaped parts, pastes, powder, cored wires, foils, wear brazing materials and fluxes for welding, brazing and surface coating equipment. The product range also includes power sources and control technology for plasma powder joint welding and surface coating, for plasma wire, keyhole and micro plasma welding. Up to 2.000 customer contacts daily are a convincing

proof of the customer orientation of Castolin Eutectic with 700 technical field staff. In our CastoLab® Services, solutions for demanding customer tasks are implemented. For large area wear protection, Castolin Eutectic offer weld coated plates of combined materials from their own production, and cut to size ready-made components in all sizes and quantities. A new product range is the “CastoTubes®”, seamlessly welded, small diameter pipes. The company is also an expert for metal powders and cored wires for surface protection by thermal spraying.

Application technology specific to your branch with tried and tested application technology and problem solutions

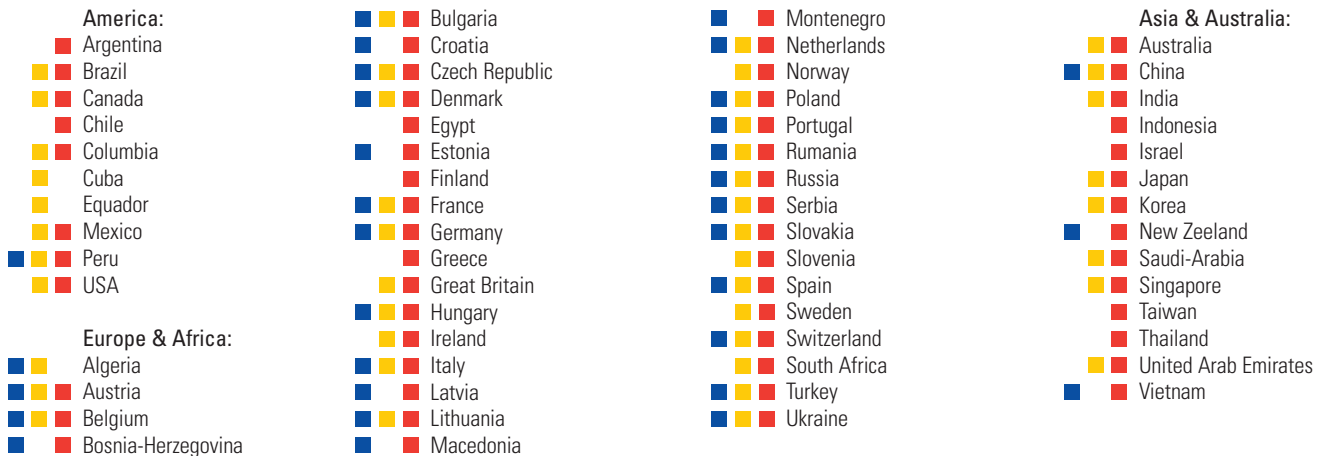
Comprehensive product range for welding, brazing surface coating, wear resistance and plasma technology



Part of the Messer World – The parts and the whole

Messer Group is active in international gas business; Castolin Eutectic contains the united competence in wear protection and joining technology and at Messer Cutting Systems there are oxyfuel and cutting technology and gas control systems, which all make up the whole. If one takes a glance at the history of the two traditional brands, Messer und Castolin Eutectic, surprising parallels appear:

Both companies were formed at the start of the 20th century, both were, or are, lead by a family for a long time and both have a virtually identical philosophy at their core: to grow successfully through quality, innovation and customer orientation. Together we are represented in virtually every country on Earth.







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