1 What we stand for
2 What unites us
3 What guides us
4 The whole World of Oxyfuel Technology
5 Oxyfuel Technology
6 GRIFLAM Heating Technology
7 Steel Mill Equipment, Services
8 Processes and Systems
9 Cutting Technologies
10 ProBlade
11 MetalMaster®
12 MultiTherm eco
13 MultiTherm®
14 OmniMat®
15 PowerBlade®
16 LaserMat®
17 Special Portal Machines
18 Bevel Cutting Units
19 ALFA, Global Control, SmartLifter
20 Marking
21 Drilling and Tapping, Strip Cutting, Blasting
22 Cutting Tables and Filters
23 Retrofit and After Sales
24 Software
26 Messer Cutting Systems Academy
28 The Messer World
WHAT WE STAND FOR
CUTTING EDGE TECHNOLOGY
FOR 116 YEARS

Messer Cutting Systems is a global supplier of cutting edge technology. We provide services for the metalworking industry, setting standards worldwide.

As the industry pioneer we offer complete solutions and focus strategically on our customers and on customer-driven innovation. The company is active in more than 50 countries, with more than 900 employees in 5 main locations with production sites.

Our product range includes oxyfuel, plasma and laser cutting systems, from hand-guided machines right up to special machines for shipbuilding, as well as plant and equipment for oxyfuel welding, cutting, brazing and heating. Spare parts, repairs and modernisation services round off the program as well as environmental equipment for the systems. Our software solutions optimise production and business processes. We focus on intensive dialogue with our customers – our modern training and application facilities reinforce this claim.

Our systems, products and services for the metalworking industry stand for cutting technology. Worldwide. For 116 years.
WHAT UNITES US
WE ARE A WORLD COMPANY

We are the Cutting Systems Partner of choice and are consultants for our customers - worldwide.

OUR MISSION:

1. To use the unlimited opportunities we have.
2. To create value for the benefit of our customers.
3. To open up, to think multidimensionally.

With this in mind we are able to build bridges for our customers’ future.
What guides us

Excellence for our clients

For Messer Cutting Systems being a World Company is a fact and a vision at the same time.

In the past our worldwide growth has led us to success, market leadership and multicultural diversity. We believe in the future potential we have as a World Company. Across all countries and regions we want to make the most out of our joint capabilities to guarantee the long-term partnership with our customers.

The “World of Excellence” symbolises our approach of providing best quality in all areas of our business. We believe in Excellence as our key success factor.
Our programme is oriented on the multi-faceted demands of modern practices so it offers the suitable systems for every welding, cutting and heating process.

The products are divided into individual ranges according to their main application, so they deliver the best performance both individually and in combination.

To complete these we also offer comprehensive systems for heating and hand equipment for steel mill applications as well as our services.

Our many years of co-operation with gas suppliers have given us a high level of competence in the use of technical gases. Experience in welding and process technology is combined with innovation, quality and reliability.
As market leader in the field of Oxyfuel Equipment we offer a complete product range in ORIGINAL MESSER QUALITY with the most modern solutions for every application. Messer Quality pays off in economy and long productive lives.

**Cylinder pressure regulator CONSTANT 2000**
for all technical gasses, 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 torch systems MINITHERM, STARLET, STAR and SUPERHERM 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, strip as well as bevel cutting on material up to 300 mm thick, flexibly and economically.

**Machine cutting torches/Machine cutting nozzles**
for automated flame cutting processes.
GRIFLAM HEATING TECHNOLOGY
COMPLETE SOLUTIONS FOR ALL INDIVIDUAL HEATING TASKS

GRIFLAM heating technology includes a multitude of heating inserts and heating torches. Our individual torches are manufactured for different gases, for the required work piece-geometry and the necessary flame power. The development and manufacturing of authorised and supervised heating and hardening units belongs to the core competences of GRIFLAM.

Implementation:
For pre and post heating when welding and cutting, stress relieving, normalising and flame hardening, and heat conversion of metals, glass and quartz glass, fusing of powder coatings, preheating of steel ingots, flame straightening, soft soldering, brazing, hard soldering, processing plastics.

ADVANTAGES:
- Unique product variety for all heating and production processes in the field of metal processing, and the processing of glass, quartz glass and plastics
- Multifunctional, cost efficient solutions through the use of standard components and/or special torches
- Automated solutions make accurate control of gas quantities and the production of exactly dosed gas mixtures possible ensuring reproducible quality for all oxyfuel processes and the widest variety of research and production applications
- Complete range of accessories
STEEL MILL EQUIPMENT
PARTICULARLY ROBUSTLY BUILT

Specially suitable for the demands in the steel mill and steel producing industries, scrap yards and foundries. Comprehensive product range for all hand cutting and scarfing applications. The cutting range of heavy duty cutting torches goes up to 700 mm. A wide range of high quality flame cutting nozzles, heating nozzles and accessories round out the complete product. Suitable for: Acetylene, Propane, Methane, natural gas, MAPP®.

ADVANTAGES:
- Robust, solid design meets the special demands and safety regulations of the steel mill industry
- Special units for scrap cutting and hole piercing of low alloyed steels as well as slag and the processing of fire resistant coatings and concrete
- Continuous quality control guarantees optimum application

OUR SERVICES
MOST EFFICIENT AND COMPETENT

The Health and Safety at Work Regulations make the company itself responsible to a high degree for the operating safety necessary when working with gas supply systems.

Consultation: We will tell you how to meet all relevant legal requirements for your company and advise you further on the implementation of measures for safe working.

Documentation: We will assist you in documenting the observation of safety standards in the right way to conform with the regulations and thus to create the basis for a preventative safety protection.

Support for certification: We will help you to fulfil the requirements for certification and audits.

Inspection: We will, on request, carry out regular inspections on your gas supply system on site to recognise potential source of problems in advance.
Just as multifaceted as our product range are the tasks presented to us from the wide range of industries we serve. Our customers require suitable solutions for their projects – we supply these with the decisive contributions.
CUTTING TECHNOLOGIES
OXYFUEL, PLASMA, LASER

Laser, Plasma or Oxyfuel – which process is best suited to and, above all, most economical for your application?

<table>
<thead>
<tr>
<th>TECHNOLOGY</th>
<th>Plate thickness range:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OXYFUEL</strong></td>
<td>3 mm – 2800 mm</td>
</tr>
<tr>
<td></td>
<td>(Typical cutting range: 10 mm – 300 mm)</td>
</tr>
</tbody>
</table>

**Oxyfuel flame cutting** is the cheapest process for the cutting of mild and low alloy steels, even with weld preparations.

**PLASMA**

Plasma cutting is a fast, precise process for cutting unalloyed and high alloyed steels as well as Aluminium with high quality.

**Plate thickness range:**
Mild Steel: 2 mm – 90 mm
Stainless Steel: 3 mm – 160 mm
(Typical cutting range mild steel: 2 mm – 50 mm)

**LASER**

If you want cuts of the highest quality with the greatest possible accuracy, then laser cutting with the square cut edge, narrow cut kerf and low heat input is the right technology for you.

**Plate thickness range:**
Mild Steel: 1 mm – 25 mm
Stainless Steel: 1 mm – 20 mm
ProBlade®
SOLID DESIGN, HIGH QUALITY
Value for money price.

The most economical access to the quality and support of the Messer World: ProBlade the first Messer global machine.
With a small size, this CNC cutting machine has a stable track construction and an ergonomic design, tough enough for a hard day’s work.
ProBlade allows the combination of oxyfuel and plasma cutting processes, to cover cutting tasks in all commonly occurring materials. The installation of this machine is fast and easy, which saves costs and gets you into production fast.
New: Also available with 2100 track gauge!

TECHNICAL DATA
- 18 m/min speed: less positioning time, so more output
- Direct drive for reduced backlash and better power transmission
- Can take up to four torches (maximum one plasma) for higher productivity
- Up to 3 m plate width: allows cutting of large parts and efficient nesting of smaller ones to reduce scrap

* Depending upon machine equipment

<table>
<thead>
<tr>
<th>ProBlade</th>
<th>2600</th>
<th>3100</th>
<th>3600</th>
<th>4000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Track Gauge</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working Width*</td>
<td>2000</td>
<td>2000</td>
<td>2500</td>
<td>3000</td>
</tr>
<tr>
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</tr>
<tr>
<td>Track Height</td>
<td>565</td>
<td>565</td>
<td>565</td>
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</tr>
</tbody>
</table>

all values in mm
MetalMaster®
DROP & CUT
Special cutting system for precision plasma processes.

Dual side longitudinal drives and precision linear guides guarantee high cutting quality and consistency. The plate support table, which is integrated into the system, is divided into a number of sections for efficient fume extraction even with a smaller fan/filter unit. The highly dynamic performance of the machine is achieved through low weight with high design rigidity.

**TECHNICAL DATA**
- Working widths: up to 2.5 m
- Travel speeds: up to 40 m/min*
- CNC controlled Z axis with the torch lifter SL100
- Specialised for the latest precision plasma processes
- Dimensional tolerances to DIN EN 28206
- Simple installation drop & cut

* Only with the gCplus

<table>
<thead>
<tr>
<th>MetalMaster®</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Working Width</td>
<td>1500 – 2500</td>
</tr>
<tr>
<td>Total Width</td>
<td>2290 – 3290</td>
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<tr>
<td>Working Length</td>
<td>3000 – 8000</td>
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<tr>
<td>Table Height</td>
<td>800</td>
</tr>
<tr>
<td>Overall Height</td>
<td>1800</td>
</tr>
<tr>
<td>Speed range</td>
<td>0 – 40 m/min*</td>
</tr>
</tbody>
</table>

*all values in mm
Compact design, simple operation and high flexibility — that is the **MultiTherm eco**. The machine is conceived for daily work in a standard cutting shop. The high level of automation, simple set-up and operation enable high productivity and the production of high quality parts — quickly and economically. The symmetrical wheel-housings and the parking space for unused torches over them optimise the working width in the narrowest spaces. The electrical cabinet is positioned over the wheel-housing so it is not exposed to thermal radiation from the cut plate. It is accessible from the side to simplify maintenance and service.

**TECHNICAL DATA**
- Working Widths: up to 3 m
- Travel Speeds: up to 12 m/min
- Cutting processes: Oxyfuel, dry plasma
- Marking processes: Punch marking, plasma marking

* Depending upon machine equipment

<table>
<thead>
<tr>
<th>MultiTherm**</th>
<th>Track Gauge</th>
<th>2600</th>
<th>3100</th>
<th>3600</th>
<th>4000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working Width*</td>
<td>1500</td>
<td>2000</td>
<td>2500</td>
<td>3000</td>
<td></td>
</tr>
<tr>
<td>Total Width</td>
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<td>4070</td>
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</tr>
</tbody>
</table>

all values in mm
MultiTherm®
VERSATILE AND EFFICIENT
Always the ideal system for your production.

Whether plasma (straight or bevel), multi-torch oxyfuel cutting, laser, marking, drilling or a combination of all is your requirement, the MultiTherm® is the machine for you. High power drives for speeds up to 35 m/min enable high positioning and cutting speeds even on tight contours. The effective working width is used to the maximum thanks to parking space for heads over the wheel-housing. Multiple torch operation for high productivity is, of course, possible with oxyfuel, plasma and laser operation.

TECHNICAL DATA
- Working Widths: up to 4 m
- Travel Speeds: up to 35 m/min
- Working Length: unlimited
- Cutting processes: oxyfuel, dry plasma, laser, WIPC
- Equipment options: plasma bevel, oxyfuel bevel, drilling
- Marking processes: powder marking, plasma marking, punch marking, needle marker OmniScript®, InkJet

* Depending upon machine equipment

<table>
<thead>
<tr>
<th>Track Gauge</th>
<th>2600</th>
<th>3100</th>
<th>3600</th>
<th>4000</th>
<th>4600</th>
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</tbody>
</table>

all values in mm
OmniMat®
MACHINE FOR SPECIAL TASKS
Ideal for large working areas with oxyfuel and plasma.

This machine has been robustly built to guide even the heaviest units accurately. The CNC controlled cutting machine with a high load gantry construction, dual sided longitudinal drives and precision machined guide sections offers you high cutting accuracy and shape consistency even in 24 hour continuous operation. Whether with oxyfuel, underwater or dry plasma, whether vertical cuts, bevels or with drilling unit, the OmniMat® is the ideal solution for the toughest conditions.

### TECHNICAL DATA
- Working Widths up to 7.8 m*
- Maximum number of torches on the machine: 20
- Automatic hole piercing up to 130 mm,
- Optional: footplate travelling with the machine and much more

* Depending upon machine equipment

<table>
<thead>
<tr>
<th>OmniMat®</th>
<th>Track Gauge</th>
<th>Working Width</th>
<th>Total Width</th>
<th>Length</th>
<th>Height</th>
<th>Track Height</th>
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<tr>
<td></td>
<td>4000</td>
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<td></td>
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<td>6535</td>
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<td>5500</td>
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<td>7800</td>
<td>9735</td>
<td>1940</td>
<td>2100</td>
<td>500</td>
</tr>
</tbody>
</table>

all values in mm
With the modern fibre laser technology, extremely powerful drives, precise linear guides in both longitudinal and transverse directions and a multifaceted bevel head, the PowerBlade is equipped for a wide range of applications.

As well as vertical cuts, the widest range of bevel cuts can be combined in one part, for example to produce optimum weld seam preparations – and all that in one operation.

**PowerBlade®**

**POWERFUL, DYNAMIC AND PRECISE**

**Technical Data**
- Cutting system with fibre laser
- Low adjustment and maintenance costs
- Low energy consumption, low running costs
- Laser class 1 because of housing
- Extremely simple operation
- Magnetic holder to protect the cutting head
- Multiple cameras for monitoring the machine and process on screen

* Depending upon machine equipment

---

<table>
<thead>
<tr>
<th>PowerBlade®</th>
<th>Track width</th>
<th>4200</th>
<th>5000</th>
<th>6000</th>
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</thead>
<tbody>
<tr>
<td>Working width*</td>
<td>2500</td>
<td>3000</td>
<td>4100</td>
<td></td>
</tr>
<tr>
<td>Maximum speed</td>
<td>140 m/min</td>
<td>140 m/min</td>
<td>140 m/min</td>
<td></td>
</tr>
<tr>
<td>Acceleration up to</td>
<td>7 m/s²</td>
<td>7 m/s²</td>
<td>7 m/s²</td>
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</tr>
<tr>
<td>Laser power</td>
<td>2400 W/3000 W/4000 W</td>
<td>2400 W/3000 W/4000 W</td>
<td>2400 W/3000 W/4000 W</td>
<td></td>
</tr>
</tbody>
</table>

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* Depending upon machine equipment
LaserMat®
THE APEX OF QUALITY
Constant precision for large format steel plates.

With working widths of over 4 m and bed lengths up to more than 40 m, the system is predestined for large format plates. The CNC controlled laser processing system offers high part accuracy due to linear guides for longitudinal and transverse motion. The laser beam is guided in the transverse direction via moving mirrors with 100% beam path length compensation and thus ensures a consistently high processing quality over the entire operating area. Vertical cuts, bevel cuts and appropriate transitions (Joints) as well as the widest range of marking processes to meet the highest requirements. The laser protection head, travelling on the beam, permits direct crane loading even with large special formats or parts.

**TECHNCAL DATA**
- Cutting system with CO₂ Laser
- Highest positioning speed over the entire working area of up to 140 m/min
- Infinitely rotating bevel unit
- Highest force deployment during acceleration
- Fulfils laser class 1

---

### LaserMat®

<table>
<thead>
<tr>
<th>Track Gauge</th>
<th>4200</th>
<th>5000</th>
<th>6000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working Width</td>
<td>2500</td>
<td>3000</td>
<td>4100</td>
</tr>
<tr>
<td>Total Width</td>
<td>5780</td>
<td>6580</td>
<td>7610</td>
</tr>
<tr>
<td>Laser power [W]</td>
<td>4500</td>
<td>4500</td>
<td>4500</td>
</tr>
</tbody>
</table>

_all values in mm_
Just as varied as our product range are the tasks we are set by the different branches of industry. We not only supply you with cutting machines with the latest technology and high reliability, but also offer know-how, support in application and design, engineering and training, e.g. in the economical use of CNC techniques. Special portal machines are used, for example in shipbuilding, the manufacture of wind turbine towers and stone mould cutting.
# Equipment and Tools

## Oxyfuel, Plasma and Laser Bevel Cutting

### Oxyfuel Bevels

- Infinite rotation of the unit about its own axis
- Interpolation of the bevel angle (change on the fly from minimum to maximum torch inclination whilst cutting)
- Positive and negative bevel angles in one part are possible

<table>
<thead>
<tr>
<th>Types of Bevel</th>
<th>Material Thickness for Bevelling</th>
<th>Max. Angle</th>
</tr>
</thead>
<tbody>
<tr>
<td>I, K, V, X, Y</td>
<td>up to 80 mm*</td>
<td>60°</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Material Thickness for Vertical Cuts</th>
<th>Max. Angle</th>
</tr>
</thead>
<tbody>
<tr>
<td>up to 150 mm*</td>
<td></td>
</tr>
</tbody>
</table>

*for manual units

### Plasma Bevels

- Infinite rotation of the unit (Skew Rotator®) about its own axis
- Interpolation of the bevel angle (change on the fly from minimum to maximum torch inclination whilst cutting)
- Anti-collision system
- Positive and negative bevel angles in one part are possible
- Arc segment system

<table>
<thead>
<tr>
<th>Types of Bevel</th>
<th>Material Thickness for Bevelling</th>
<th>Material Thickness for Vertical Cuts with Edge Start</th>
<th>Max. Angle</th>
</tr>
</thead>
<tbody>
<tr>
<td>I, V, X, Y</td>
<td>up to 50 mm</td>
<td>up to 50 mm</td>
<td>45°</td>
</tr>
</tbody>
</table>

### Laser Bevels

- Infinite rotation of the cutting head about its own axis
- Interpolation of the bevel angle (change on the fly from minimum to maximum torch inclination whilst cutting)
- Anti-collision system
- Positive and negative bevel angles in one part are possible

<table>
<thead>
<tr>
<th>Types of Bevel</th>
<th>Material Thickness for Bevelling</th>
<th>Material Thickness for Vertical Cuts</th>
<th>Max. Angle</th>
</tr>
</thead>
<tbody>
<tr>
<td>I, V, Y</td>
<td>up to 15 mm</td>
<td>up to 25 mm</td>
<td>50°</td>
</tr>
</tbody>
</table>
ALFA, GLOBAL CONTROL AND SMARTLIFTER

ALFA

The oxyfuel machine cutting torch of the future
- Patented reliable magnetic height sensing system
- Sensing ring and additional cables are no longer present, so there is no wear of the sensor nor any need to change it for different material thicknesses
- No need to change sensing rings for different material
- Better material utilisation through better sensing right up to the edge of the plate
- The Sensomat® ALFA height sensing is easy to use with a digital display of the current operating status
- With the ALFA torch, fast nozzle change is possible without the use of tools.
Set-up times are significantly reduced

Global Control

The latest generation controls
- Automatic and manual control of the cutting processes
- Databases: technology, materials and consumables
- Plate alignment compensation
- Torch positioning supported with camera or laser diode (option)
- Graphic editing/display of the nesting plan elements
- Graphic display of the current torch position with zoom function
- Service / maintenance diagnostics
- Import of DIN/ESSI formats
- Global Reporter: Machine Data Capture (option)

SmartLifter

Torch lifter
- Stabile and fast cutter suspension for oxyfuel and plasma cutting
- Patented stand-off control SensoMat® controls the exact distance from torch to material for better cut quality
- integrated Z axis for fast, accurate positioning
- Faster stroke with spindle drive ensures lower non-productive times, optimum cut quality and high productivity
- Completely maintenance free

<table>
<thead>
<tr>
<th>SmartLifter</th>
<th>SL100</th>
<th>SL200</th>
<th>SL300</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stroke</td>
<td>100 mm</td>
<td>200 mm</td>
<td>300 mm</td>
</tr>
<tr>
<td>Stroke speed</td>
<td>266 mm/sec(16 m/min)</td>
<td>266 mm/sec(16 m/min)</td>
<td>266 mm/sec(16 m/min)</td>
</tr>
<tr>
<td>CNC controlled Z axis</td>
<td>Z</td>
<td>Z</td>
<td>Z</td>
</tr>
</tbody>
</table>
EQUIPMENT AND TOOLS
MARKING

**Inkjet**

The system for printing of lines, contours and alpha-numeric characters. The plates are marked fast and silently, with no negative influences on the surface.

**Max. marking speed:**
- Single jet system: 3 – 35 m/min (lines)
- Multi-jet systems: 3 – 26 m/min (by character)

**OmniScript**

Especially suitable for marking texts onto parts (e.g. ISO 9000). The vibrating stylus point with its own axes generates clearly readable, long-lasting marking in just a few seconds. Also suitable for marking lines and curves (e.g. bending lines).

**Max. marking speed:**
- 6.6 m/min (lines)
- 1 cps for 10 mm character height

**Plasma marking**

The plasma marking unit melts the plate surface and allows fast, precise marking with line widths, depending upon the application, of 0.5 to 1.5 mm.

**Max. marking speed:**
- 20 m/min

**Punch marking**

The unit produces clear lines and punched points on the plate surface for drilling, contours and letters.

**Max. marking speed:**
- 3 m/min
DRILLING AND TAPPING, STRIP CUTTING, BLASTING

Drilling and Tapping

In those cases where
- high accuracy of the holes is required
- threads should be tapped on the same machine
- the hole diameter has to be less than the material thickness,
- the number of thermal hole piercings has to be reduced or very small
  internal cuts are required, the machines can also be equipped with a drilling
  head. Boring out to 100 mm diameter, depending upon machine, possible.

Strip cutting

The strip cutting unit has been specially designed for cutting shops who have
many strips to cut. It can be interchangeably installed on a standard cutting ma-
chine. It is possible to cut two strips with widths of 90 up to 180 mm or one strip
with widths of 180 up to 360 mm with one head. Height sensing is made by the
centre torch which is connected to the SensoMat® ALFA. Multiple strip cutting
heads can be combined for simultaneous cutting.

Blasting

This process is mainly used in shipbuilding where primed plates have to
be prepared for later welding. In one operation the plate is both blasted and
marked. Stiffeners can be welded on at once. This makes for drastic time savings
in the production process.
CUTTING TABLES AND FILTERS
SAFETY AND ENVIRONMENTAL PROTECTION

Filter

The new filter series offers a large selection of filter solutions for flexible use in industrial extraction. The powerful units guarantee a safe and healthy working environment. Because of their low consumption of current and compressed air and the long interval between services they are very economical.

Cutting Tables with fume extraction

Fume extraction cutting tables from Messer satisfy the requirements for optimum production conditions with oxyfuel, plasma or laser cutting. Reliable safety for the machine operator, high energy efficiency and the optimum layout of the production process are the criteria using which Messer can prepare the best cutting table for every application from its extensive modular system. For simple cleaning of the tables Messer offers not only slag trays but also various automatic systems integrated into the tables and matched to the cutting process. These are also suitable for removing small parts and include vibration feeders, scraper conveyer tables and belt conveyer tables.

Water Tables

Based on decades of experience in thermal cutting, Messer also offers every type of water table. For special materials or especially high requirements for low distortion and low heat affected zones, there are cutting processes in, on or over water. Messer can also offer here the optimum solution designed for all conceivable variations, such as, for example:

- Automatic level lowering for loading/unloading
- Agitation devices to prevent the build up of explosive gasses when cutting Aluminium under water
- Fully automatic slag removal
- Stops which can be lowered

To suit the individual application or logistic requirements of our customers the tables are built nearly individually by using modern modular constructions.
RETROFIT AND AFTER SALES
INCREASE LIFETIME AND PRODUCTIVITY

RETROFIT

The Economical Alternative
A conversion or retrofit means upgrading to the newest technology such as modern numerical controls based on a PC, or torch suspensions with automatic height control using the latest process oriented sensing methods.
Typical components for Retrofits are the new generation of plasma units for the plasma process or high performance oxyfuel torches.

The ADVANTAGES FOR YOU:
- High increase in output for little investment
- Short down times
- Better availability of spare parts and consumables

After Sales

Everything to keep your production running
The guarantee for the best productivity for cutting is the use of original spare parts and consumables. We hold all common spare parts and consumables available for you for short delivery.
Ask today about the possibility of special agreements to guarantee you the best prices!

We have well trained teams in our repair workshop who ensure professional repair of components such as gearboxes, torch suspensions, rotating heads, controls and printed circuit boards.
Machines and software from one source.

**Use Messer machines more efficiently with Information Technology**

Machines and software from the same supplier guarantee the best utilisation of available resources. Your IT supported production environment meshes with your manufacturing engineering ERP solutions. All processes work together smoothly for the overall added value creation. From preparing quotations to post calculations, from design of the parts to the creation of nested plans, the transfer of the plans to the machines and finally the cutting of the parts, you have perfect information management. This guarantees efficient production with the highest quality standards whether it be with small batch quantities in engineering and plant construction or with just in time order based production with ever changing quantities in a job shop. Because quality, timing and the price is right, your competitiveness is as well.

**Production orientated Information Technology**

*OmniWin* is a modern and flexible design and nesting software, which adapts intelligently to your machine and your cutting needs. It takes over all cutting tasks for order-based production with CNC thermal cutting machines. OmniWin is effective and economical for small production runs in the machine and manufacturing industry, as well as in just-in-time manufacturing with changing quantities at custom cutting operations. OmniWin is the ideal tool for production planning with thermal cutting for oxyfuel, plasma and laser cutting with CNC machines.

*SigmaNest* is a solution for complex requirements and sets new standards for cost-optimized process technologies, multi-vendor environments plus extensive interfaces for integration with ERP/ERP systems. You operate with minimum material usage from the simplest to the most complex machines.

The system architecture allows smooth application in all conceivable enterprise scenarios and IT environments. With the perfect adaption of the system to your production you can use a wide range of configuration options and work extremely efficiently. The multiuser database ensures the highest level of security for your production data and user settings.

Our experienced experts are there to support you in applying information and process technology profitably. Qualified consultancy, professional implementation as well as efficient training and powerful support ensure the optimum implementation of our solutions in your company.
OmniBevel is the professional software product for bevel cutting. It represents straight cuts, cylindrical holes, exact bevel angles and parts with absolute dimensional accuracy. The application is also characterised by enormous flexibility. Almost all possible technology parameters and operation details can be adjusted.

**Business Process Technology**
With our process oriented solutions you have targeted control over your operative daily business and optimise your management tasks. The integration of your production in your ERP world makes your manufacturing engineering economics transparent. Your resources can be planned and calculated. Together with our expert team you develop your individual information management. In this process we apply our extensive technical knowledge and our long years of experience in such a way that you gain the maximum benefit. The outcomes are integrated and optimised processes that manage prices, times and costs for you, organise resources and control results.

**Machine and Software from a single source**
Together with all other companies of the Messer World we offer a unique branch know-how which is well above market standard of other IT consultancy and service companies. We combine our IT know-how with our machines, products and services, integrating them to complete solutions and bringing added value to our clients. Our integral, customer oriented and corporation wide approach ensures the achievement of planned customer benefits.
FIT FOR EXCELLENCE
MESSER CUTTING SYSTEMS ACADEMY

Use products from Messer Cutting Systems more effectively.

To enable you to employ our products most effectively we have established the Messer Cutting Systems Academy in Groß-Umstadt, Germany. Here we impart knowledge and competence to you and your employees on how to handle our machines, equipment and software.

FIT FOR MORE
OUR OPERATOR TRAINING
We turn your operators into professionals so that you can increase productivity out of work.
How? Quite simply: by giving your employees the knowledge of how to coax the best out of your cutting system.

Why have operator training when everything was explained during commissioning?
Just as the driving test qualifies a candidate to drive a car, so the instructions allow the unit to be used. However, if you require more from a driver than just being able to get from A to B, namely to demonstrate safety and experience, for example to:
- interrupt his route between stops
- simply carry out more tasks
- be active himself to make changes
then he must be trained for this. Such operator training does not just make sense, it pays off. In high wage countries the amortisation time for investment in labour is usually shorter than for machines. So training is not just ‘nice to have’ it is a decisive factor for competitiveness.
Our promise of success to you: flexibility, speed, independence.

FIT FOR PURPOSE
OUR SERVICE TECHNICIAN COURSES
We turn tedious maintenance into far-sighted prevention – so that you can generate uptime out of downtime… and increase productivity.
How? Quite simply: by giving your employees the knowledge of what to do to keep your cutting systems always fit and ready for operation.

Why have service training when everything was explained during commissioning?
If it were just a matter of a squeaking door then our courses would really be unnecessary. But just as it is with a car:
- a clean filter ensures lower fuel consumption
- checking the oil level prevents serious problems
- a body which is cared for lasts longer
Thus service and maintenance also pay off with a cutting

IN THE MESSER CUTTING SYSTEMS ACADEMY WE OFFER TO OUR CUSTOMERS:
- Concentration of Messer technical know-how into a comprehensive training curriculum
- Documentation of our technical expertise and its concentration into didactically optimised training material
- Professionally and didactically trained personnel
- Access to an online learning platform for self-managed learning and knowledge management (E-Learning)
- Tips for better and faster cutting
FIT FOR PROCESSING
Our Software Training
We turn your workers into production planners – who optimise material and resources… so that their achievement potential is completely reached.
How? Quite simply: by giving your staff the (Software) knowledge to make operating steps simpler and more transparent.

Why does one need all these electronics in new cars?
It is all just a gimmick.
To stick to the analogy with cars: obviously if it were just a matter of fancy lights and sounds one could save kilometres of wiring installed in a middle class car.
But just like our car
- uses the tracking assistant to wake us up
- predicts fuel consumption with its board computer
- uses the navigation system to find the fastest route
our software solutions help you to make your business still better and your employees still more efficient.
Our promise of success to you: alarm functions, resource planning, optimise sequence of operations.

FIT FOR SPECIALS
Our Workshops
We help companies to make more out of their business … by targeted optimisation.
How? Quite individually: you decide who, from which division, needs a special training in which area of expertise.

Our promise of success to you: We will strengthen the ability of your staff and your company to innovate. Your employees are already really fit, but a valuable potential is lying fallow.
Just as with driving a car: they are all already experienced but none are excellent drivers. To be prepared for critical situations advanced driver training, for example, is missing. Or a rally to establish team spirit. You decide who should undergo a special training and with which colleagues. Whether solo or in a group, you will be trained by us in areas which go far beyond standard training. Specifically designed for your needs. Carried out by real cutting experts.

We are now an authorised DVS training centre and can qualify your personnel according to DIN EN 1090-1 in connection with an internal production control.
As a traditional German engineering company, we focus on the development and production of cutting and welding machines for 116 years. Our knowledge represents a high degree of investment security to our customers. Messer was the inventor of oxyfuel technology and a pioneer in electric welding. The company made important contributions to the development of process technology. Messer Cutting Systems emerged from a small engineering company to a global innovative products and consultancy company. We rely on our roots as a German, family-owned company and commit to the values of the Messer World.
The Messer brand name stands for a constant presence in the markets for industrial gases and cutting and welding technology stretching back for 116 years. The Messer Group (Messer) and the Messer Eutectic Castolin Group (MEC) operate under the “Part of the Messer World” umbrella brand, signifying that they are part of the “Messer World” group of companies.

They all offer application-specific know-how and products, that extend the life and improve the means of production and production processes significantly.

ASCO Kohlensäure is a provider of individual and complete CO2 solutions.
BIT Analytical Instruments produces precision technical instruments for medical applications.
Castolin Eutectic specialises in wear protection, repairs and fusion technologies.
Messer Group is the largest owner-run industrial gas company in the world.
Messer Cutting Systems offers an entire range of thermal cutting solutions and specialises in oxyfuel equipment as well as gas supply systems.
MesserSoft is the software partner in the MRP/ERP environment for customers of Messer Cutting Systems.
Messer Medical Home Care concentrates on activities in the home care sector.
Spectron Gas Control Systems is the specialist for gas supply systems.