

# PRODUCT RANGE

# MESSER CUTTING SYSTEMS

**MESSER**   
Cutting Systems



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# WHAT WE STAND FOR CUTTING EDGE TECHNOLOGY FOR 120 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 120 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.



# ORIGINAL MESSER OXYFUEL EQUIPMENT **THE WHOLE WORLD OF OXYFUEL TECHNOLOGY**

Our program 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.



# OXYFUEL TECHNOLOGY

## PRODUCTS IN ORIGINAL MESSER QUALITY

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 SUPERTHERM 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.

# OXYFUEL APPLICATION

**FLAME GOUGING**



**RIVET HEAD CUTTING**



**GAS CUTTING**



**FLAME CLEANING**



**BRAZING**



**HEATING**



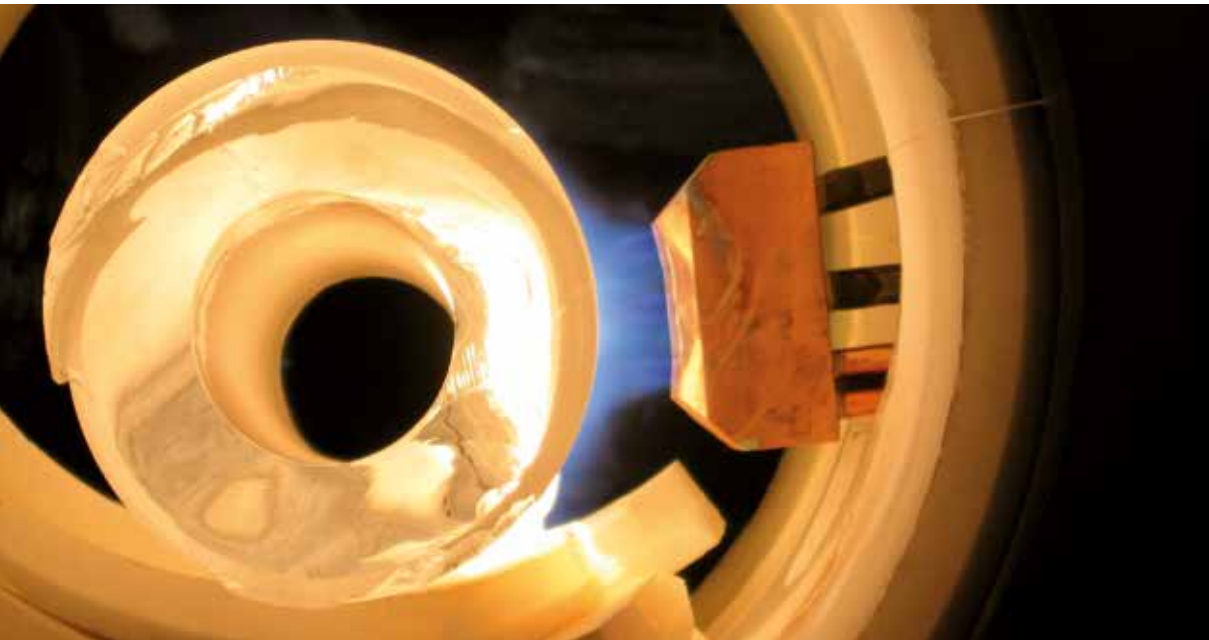
**HIGH PRESSURE REGULATOR**



**FLASHBACK ARRESTOR**







# 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

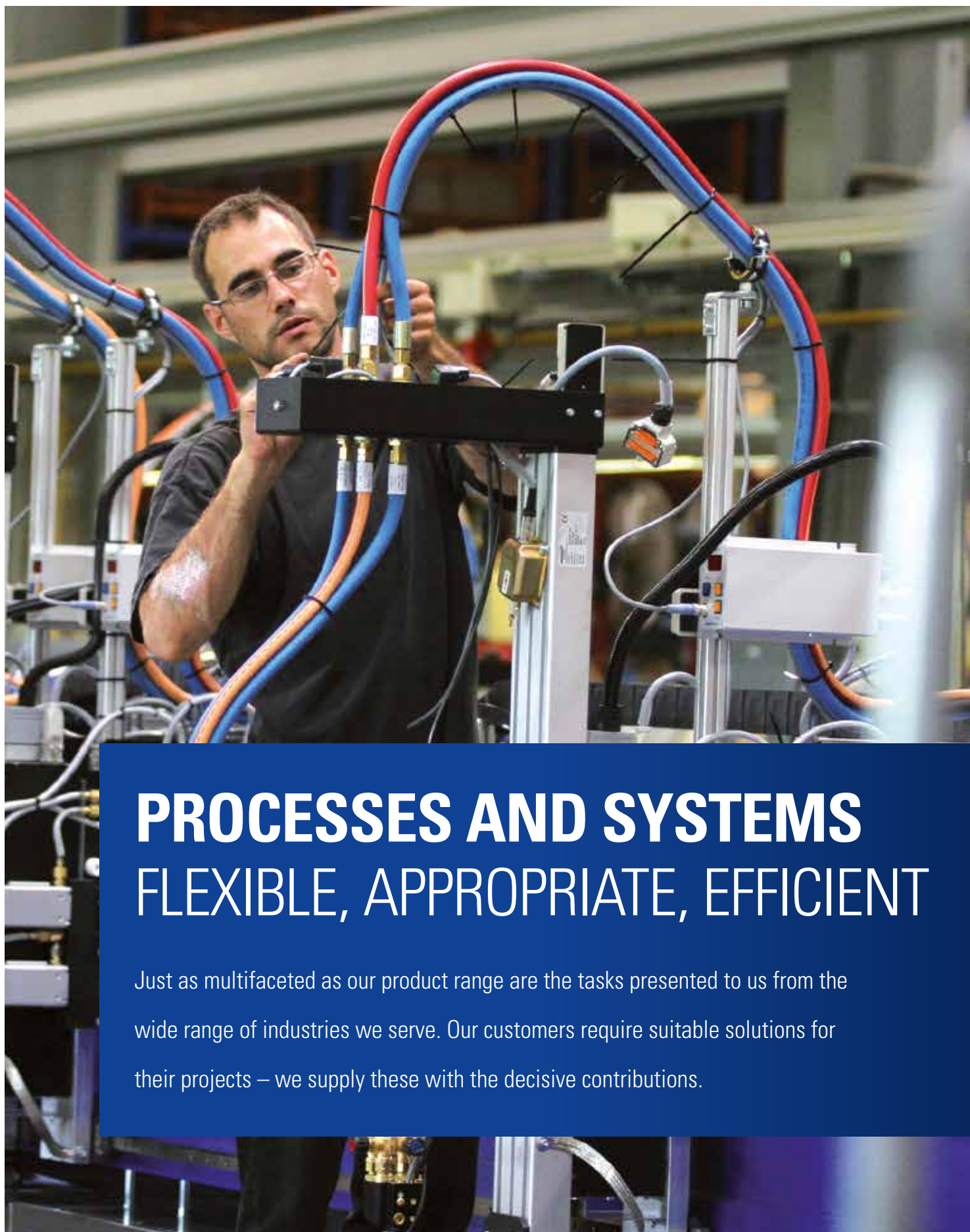
The Health and Safety at Work Regulations make the company itself responsible to a high degree for the operating safety necessary when working with gas supply systems.

**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.



# PROCESSES AND SYSTEMS FLEXIBLE, APPROPRIATE, EFFICIENT

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?**

### OXYFUEL

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

**Plate thickness range:**  
3 mm–2800 mm  
(Typical cutting range:  
10 mm–300 mm)

### 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



# MetalMaster 2.0

## DROP & CUT

Special cutting system for precision plasma processes.

Compact design reduces space requirements.

Positioning speed of 35 m/min reduces idle time between cuts

Free standing control console for ease of access and safe operation.

Easy access to the cutting bed from all sides permits

Quick and efficient unloading and reloading reducing idle time between plates

Integrated fume extraction to meet all environmental standards for dust and fumes

Specially designed slag trays for easy table cleaning and efficient extraction

### TECHNICAL DATA

- Cutting processes: Oxy fuel and dry plasma

- Marking processes: powder marking, plasma marking, punch marking

MetalMaster®	
Working Width	1500–2500
Total Width	2290 – 3290
Working Length	6000 – 8000
Table Height	800
Overall Height	1800
Speed range	0–35 m/min*

all values in mm



The image shows a large industrial plasma cutting machine, the MetalMaster 2.0, in a bright blue finish. The machine features a robotic cutting head with a plasma torch, mounted on a gantry system. The control console is a free-standing unit with a screen and buttons. The machine is positioned on a cutting bed with a grid of metal plates. The MESSER logo and 'MetalMaster 2.0' are prominently displayed on the side of the machine.

# MultiTherm<sup>eco</sup>

## EASY OPERATION AND HIGH FLEXIBILITY

### FAST AND EFFICIENT

Compact design, simple operation and high flexibility – that is the **MultiTherm<sup>eco</sup>**. 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 5 m
- Travel Speeds: up to 12 m/min
- Cutting processes: Oxyfuel, dry plasma
- Marking processes: Punch marking, plasma marking

\* Depending upon machine equipment

MultiTherm <sup>eco</sup>								
Track Gauge	2600	3100	3600	4000	4600	5000	5600	6000
Working Width*	1500	2000	2500	3000	3600	4000	4600	5000
Total Width	4070	4070	5070	5070	6070	6070	7070	7070
Length	1500	1500	1500	1500	1500	1500	1500	1500
Height	1980	1980	1980	1980	1980	1980	1980	1980
Track Height	500	500	500	500	500	500	500	500

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

OmniMat®											
Track Gauge	4000	4600	5000	5600	6000	6500	7000	7500	8000	8300	8800
Working Width	3000	3600	4000	4600	5000	5500	6000	6500	7000	7300	7800
Total Width	4935	5535	5935	6535	6935	7435	7935	8435	8935	9235	9735
Length	1940	1940	1940	1940	1940	1940	1940	1940	1940	1940	1940
Height	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100
Track Height	500	500	500	500	500	500	500	500	500	500	500

all values in mm



# ComCut<sup>i</sup>

## CNC CUTTING FOR THE PRACTICAL WORKSHOP

The ease of operation and robust construction of the ComCut<sup>i</sup> is designed for the practical workshop and built for life in the real world.

High accuracy and stability from precisely machined railway section track

### TECHNICAL DATA

- Working width upto 3.0m
- Working length unlimited
- Travel speed upto 12m/min
- Cutting processes: oxyfuel / dry plasma

ComCut <sup>i</sup>		
Track gauge	3100	4000
Working Width	2500	3000
Overall Width	3625	4525
Length	1800	1800
Height	2100	2100
Track Height	500	500

all values in mm



# TerraBlade<sup>D</sup>

## AFFORDABLE AND POWERFUL

Solution for minimum investment, maintenance & maximum cut performance.

Affordable CNC profile cutting system suitable for small & medium production companies to take control of their production by doing their own steel profile cutting inhouse.

Equipped with simple.

Easily operatable Gas console supplemented with MS932 torch and its quick change nozzles ensure high quality gas cutting.


Ideally suited for variety of plasma systems increases the scope of applications.

### TECHNICAL DATA

- **Rapid Speed: up to 06 mtr/min**
- **Working length: 3.0, 8.0, 13.0 mtr**
- **Cutting processes: Oxy fuel and dry plasma**
- **Marking processes: powder marking, plasma marking, punch marking**
- **Maximum 2 carriages**

TerraBlade <sup>D</sup>		
Track Gauge	3700	3040
Working Width*	3000	2500
Total Width	4040	4700
Track Length	5000,10000,15000	
Height	1932	1932
Track Height	479	479

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

MultiTherm®						
Track Gauge	2600	3100	3600	4000	4600	5000
Working Width*	1500	2000	2500	3000	3500	4000
Total Width	4070	4070	5070	5070	6070	6070
Length	1940	1940	1940	1940	1940	1940
Height	1980	1980	1980	1980	1980	1980
Track Height	500	500	500	500	500	500

all values in mm



Sicomat®



## SPECIAL PORTAL MACHINES PRECISION BY THE KILOMETRE

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.

# FiberBlade 4D

## EFFICIENT, RELIABLE, LOW MAINTENANCE COSTS

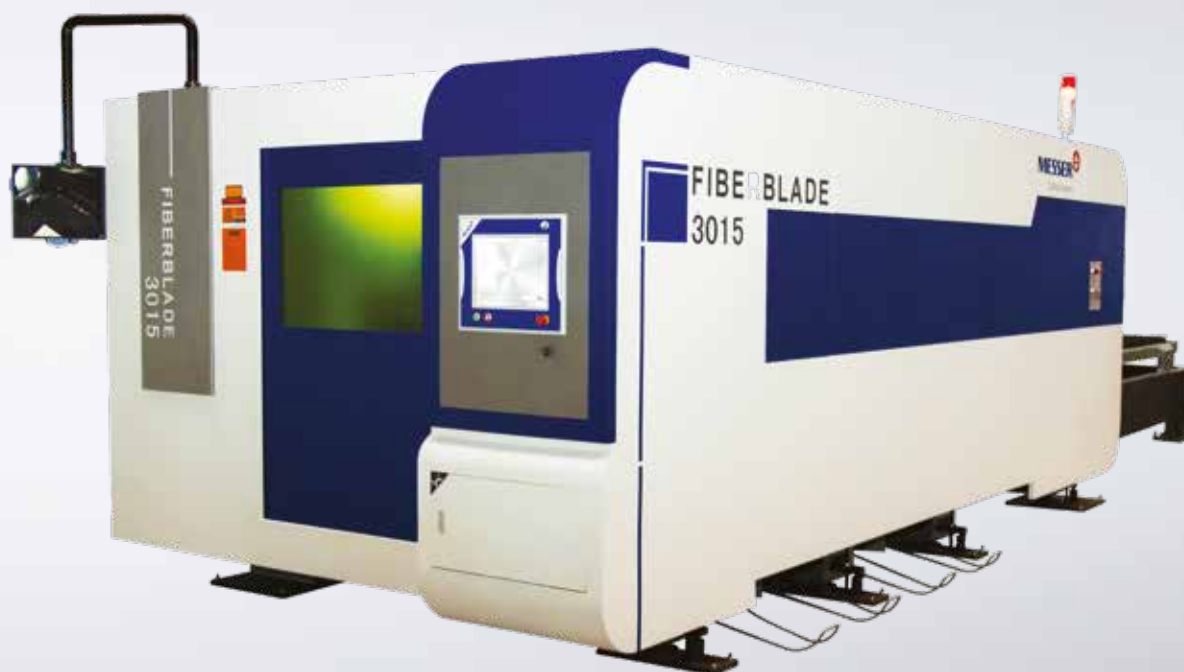
Higher total efficiency of the fiber laser of approximate 30%  
 Low Energy Consumption  
 Low cooling power required  
 No moving parts in the laser resonator  
 Completely enclosed machine housing for optimum safety  
 for both the process & the operator

### TECHNICAL DATA

- Cutting processes available: Laser cutting and marking
- Laser power available: 1000 W / 2000 W / 3000 W / 4000 W

#### FiberBlade 4D

Working width	1500	2000	2500
Working length	3000	4000	6300
Maximum speed	100 m/min	100 m/min	100 m/min



# Fiberblade V

## EFFICIENT, STABLE, SUPERIOR AND HIGHLY PRODUCTIVE

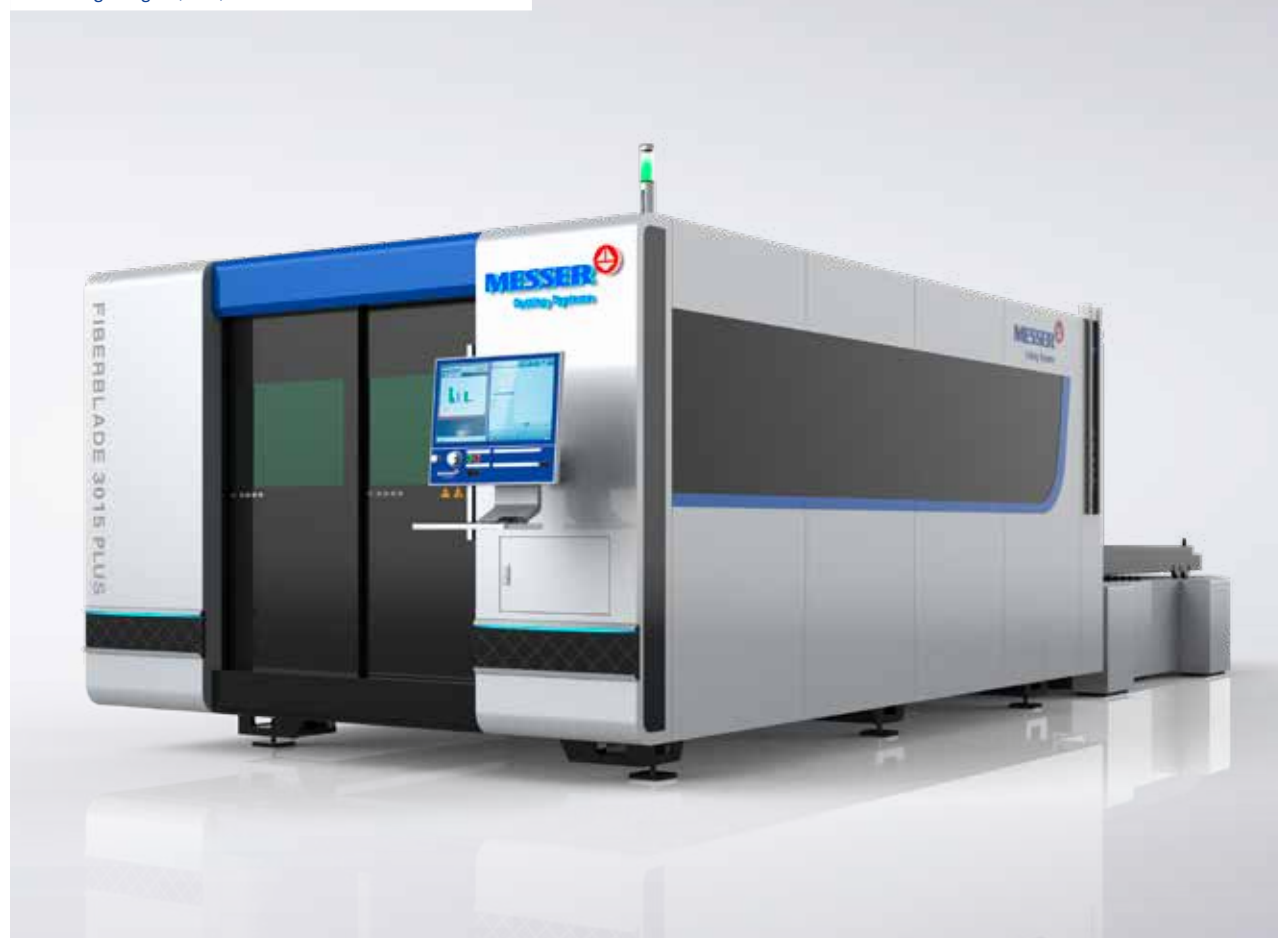
Benefits from Messer high speed technology  
 New generation Global control system with simple and user friendly HMI.  
 Equipped with verified database  
 Compatible with a few OEM NCX code  
 Minimum downtime  
 Configurable with material handling and storage systems

### TECHNICAL DATA:

- Cutting system with fiber laser
- Travel speed : upto 120m/min (169m/min simultaneous axis)
- Acceleration : 1.5G
- Laser process available: Laser cutting and marking
- Laser power available: 3000w to 10,000W

### Fiberblade V

Model	3015	4020	6020
Working width (mm)	1525	2025	2025
Working length (mm)	3050	4050	6350



# SwiftBlade

## FAST, STURDY AND COMPETITIVE

Suitable for sheet metal industry for cutting shapes & precision parts for thickness upto 5mm for MS and 2mm for SS.

### TECHNICAL DATA

- Travel speed upto 50 m/min
- Cutting processes available: Laser cutting
- Laser power available: 500 W / 1000 W



# PowerBlade®

## POWERFUL, DYNAMIC AND PRECISE

With the modern fiber 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.

### TECHNICAL DATA

- Cutting system with fiber 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
- Laser power available: 2000 W / 3000 W / 4000 W

\* Depending upon machine equipment

PowerBlade®			
Track width	4200	5000	6000
Working width*	2500	3000	4100
Maximum speed	140 m/min	140 m/min	140 m/min
Acceleration up to	7 m/s <sup>2</sup>	7 m/s <sup>2</sup>	7 m/s <sup>2</sup>

# 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.

### TECHNICAL DATA

- Cutting system with CO<sub>2</sub> 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
- Laser power available: 4500 W

LaserMat®			
Track Gauge	4200	5000	6000
Working Width	2500	3000	4100
Total Width	5780	6580	7610

all values in mm





# OmniMat Combo PLASMA & LASER COMBO

Constant precision for large format steel plates.

Cutting capability of Plasma & Fiber Laser Combination.  
For Cutting a full range of materials the plasma and fiber  
Thin materials, Fiber laser provides the best quality, cycle  
Time and cost per piece  
Thick materials, plasma provides the best cycle time and cost  
per piece

- TECHNICAL DATA**
- Travel Speeds: up to 35 mtr/min
  - Working length: unlimited
  - Cutting processes available: Laser cutting, Plasma cutting and Marking as per customer application
  - Laser power available: 1000 W / 2000 W / 3000 W / 4000 W / 6000 W

OmniMat Combo				
Track Gauge	4000	5000	6000	7000
Working Width	3000	4000	5000	6000
Total Width	5100	6100	7100	8100

all values in mm

# OmniMat Fiber

## MINIMUM MAINTENANCE

## MAXIMUM CUT PERFORMANCE

The OmniMatFiber excels in high positioning speeds and accuracy because of its rigid construction and linear guides  
 User friendly CNC control for better performance  
 Positive Bilateral longitudinal drives for good acceleration  
 Low maintenance costs and long operating life.  
 Fiber lasers work with continuous glass fibers with no deflecting mirrors and gas purging.

### TECHNICAL DATA

- **Travel Speeds: up to 35 mtr/min**
- **Working length: unlimited**
- **Cutting processes available: Laser cutting and Marking**
- **Laser power available: 1000 W / 2000 W / 3000 W / 4000 W / 6000 W**

#### OmniMat Fiber

Track Gauge	4000	5000	6000	7000
Working Width	3000	4000	5000	6000
Total Width	5100	6100	7100	8100

all values in mm



# SmartBlade

## COMPACT, SWIFT AND PRECISE

Ideal for duct and ornamental cutting.

Drop & cut machine suitable for ducting industry.

Equipped with simple air plasma smartblade is ideally suited for ornamental cutting.

Compact design reduces space requirements.

Reliable height control via arc voltage control ensures high cutting performance.

### TECHNICAL DATA

- Travel speed up to 12m/min

- Cutting processes available: Dry Air Plasma

#### SmartBlade

Working Width	1500
Total Width	2475
Working Length	2500
Table Height	700

all values in mm



# CraftBlade

## SIMPLE AND COMPACT

Ideal for institutes for skill development activities on thermal cutting.

Simple design enabling easy installation by customer saving cost on installation and usage and extremely convenient as well.

Craftblade is ideally suited for technical institutions and skill development centers.

The unique package allows easy upgradation from oxyfuel to plasma, catering to startup cutting setups.

### TECHNICAL DATA

- Travel speed upto 6m/min
- No of torches - 1
- Cutting processes: oxyfuel / dry plasma

#### CraftBlade

Working Width	1250
Total Width	2050
Working Length	2500
Table Height	500

all values in mm

\* Working width larger than 3000 mm is available on request



# 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

Types of bevel	I, K, V, X, Y
Material thickness for bevelling	up to 80 mm*
Material thickness for vertical cuts	up to 150 mm*
Max. Angle	60°

\*for manual units

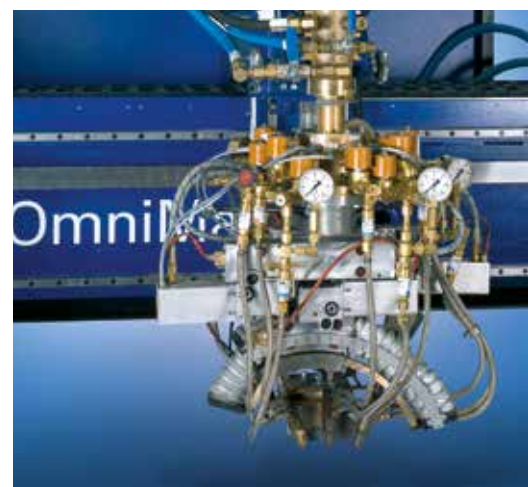
### Plasma bevels

- Infinite rotator
- 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

Types of bevel	I, V, X, Y
Material thickness for bevelling	up to 50 mm
Material thickness for vertical cuts with edge start	up to 50 mm up to 100 mm
Max. Angle	45°

### Delta° rotator

- Rotation of the unit +/- 460° at a rate of 50 RPM about its own axis
- Interpolation of the bevel angle (change on the fly from minimum to maximum torch inclination whilst cutting)
- Lateral and Vertical torch "decoupler" anti collision
- Resultant piece part bevel angles +/- 45°
- Tool Center Point (TCP) bevel rotator



### Bevel-R

- Non (TCP) Tool Center Point indexing
- Rotation of the unit +/- 460° at a rate of 50 RPM about its own axis
- AC Drives for high performance
- Sure stock anti collision mechanism
- Swift and agile light weight rotator



### 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
- Tool Center Point (TCP) Bevel rotator

Types of bevel	I, V, Y
Material thickness for bevelling	up to 15 mm
Material thickness for vertical cuts	up to 25 mm
Max. Angle	50°



# PTC500

## PIPE CUTTING SYSTEM

3D Pipe Profile along with plate cutting

With the PTC500, Messer Cutting Systems offers a pipe cutting system for its OmniMat® and MultiTherm® ranges of machines. The core is the offline software in 3D-Profiling of pipes, which makes the required machine axis control possible in perfect interaction with the Messer

Processing of round pipes up to a diameter of 500 mm is possible with the PTC500. With this the pipes can be cut

- with a Plasma torch perpendicular to the pipe surface with the pipe axis rotating or
- using the bevel cutting units Skew Rotator Delta and Skew Rotator Infinity for weld preparations of up to 45° relative to the pipe surface.

The central axis of the pipe can be variably adjusted with a manual setting of both the pipe support carriages and the driven pipe carriage.

An internal fume extraction through the pipe is an integral part of the system.

- Global Control. Plasma is available as the cutting process. Messer provides a single point of access to the entire scope of Thermal cutting technology required to materialize any project in any industry for any fabricator.

### TECHNICAL DATA

Type	round	Square
Size	Ø 50 - 500 mm	75 to 300 mm sq.
Wall thickness	2 to 30 mm	
Pipe length*	6000 mm	
Max. pipe weight	2000 kg	
Width of pipe carriage	600 mm	
Width of driven pipe carriage	950 mm	
Height driven pipe carriage	1050 mm	
Max. cutting speed on pipe	4000 mm/min	

\*on request

### PTC500



# Plamill GV / GV-B

## DRILL MILL TAP & PLASMA CUTTING

Straight & Bevel Plasma Cutting, High Speed Drilling, Tapping, Milling in one Complete Systems

- Complete machine of plate processing, Plasma cutting, Milling, Drilling, Marking all in one
- Compact design reduces space requirements.
- High Positioning speed reduces idle time between cuts.
- Strong Spindle Motor for powerful drill & mill application
- Specialised Rails with Helical rack & gear for extremely smooth movement.
- Side control console for ease of access and safe operation and view of both sides
- Easy access to the cutting bed from all sides permits quick and efficient unloading and reloading reducing idle time between plates.
- Integrated fume extraction to meet all environmental standards for dust and fumes. Extractor & dust filter to be arranged by customer.
- Specially designed copper Pin type Grating table for effective plasma cutting & Drilling
- Specialised controller for all Thermal & Non Thermal operation powered by world class plate processing Software.

### TECHNICAL DATA

Working Width	3200	4200
Min. Cutting Length (mm)	2000	
Min. Track Length (mm)	6000	
Table Height	650	
Spindle torque	90Nm at 3100 rpm	
Spindle max power	29.2Kw	
Spindle size	BT40	
Bevel type	TCP	
ATC No of Tools	8	
Plasma Configuration	Hyperthem / Kjellberg as per customer require- ment	

### Plamill GV / GV-B





# 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

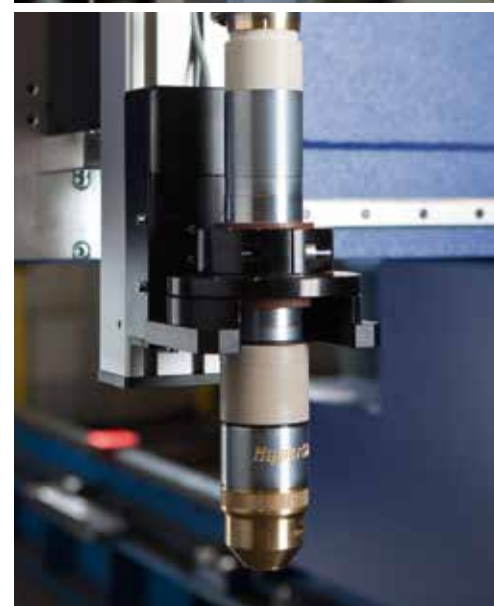
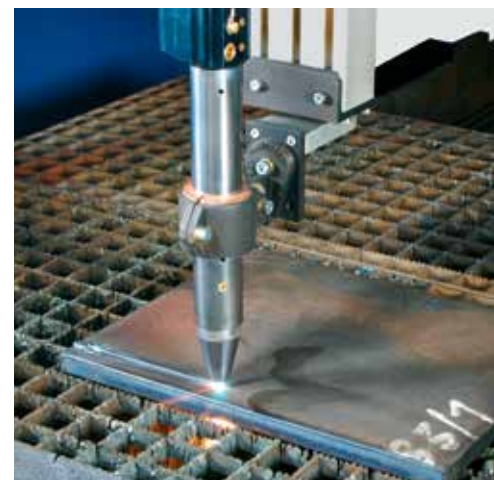
- Automatic and manual control of the cutting processes
- Databases: technology, materials and consumables
- Plate alignment compensation
- Torch positioning supported with camera or laser diode (option)
- Graphic editing/display of the nesting plan elements
- Graphic display of the current torch position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

## SmartLifter

### Torch lifter

- Stable 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

SmartLifter	SL100	SL200	SL300
Stroke	100 mm	200 mm	300 mm
Stroke speed	266 mm/sec (16 m/min)	266 mm/sec (16 m/min)	266 mm/sec (16 m/min)
CNC controlled Z axis	Z	Z	Z



# EQUIPMENT AND TOOLS

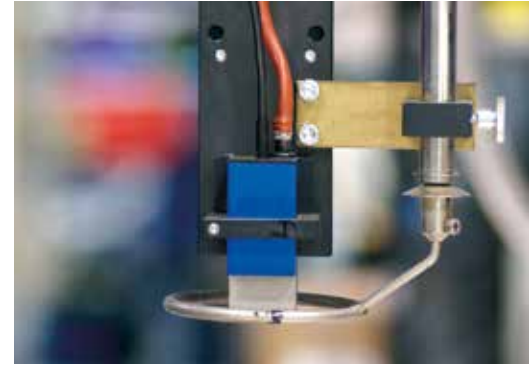
## MARKING

### 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)

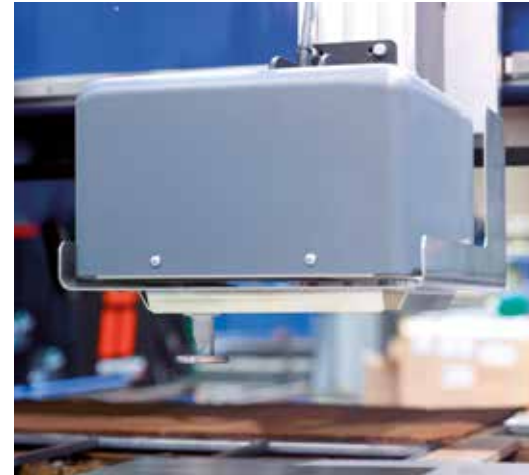


### OmniScript

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

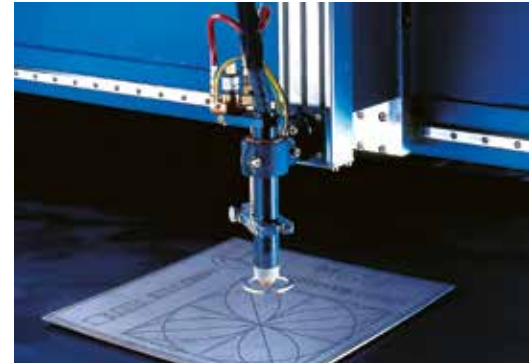


### Plasma marking

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 machine. 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 ship-building 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.



# MODERNISATION AND AFTER SALES INCREASE LIFETIME AND PRODUCTIVITY

## MODERNISATION

### The Economical Alternative

A conversion or modernisation 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 Modernisation 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.



# SOFTWARE FROM MESSER FOR PROCESSES AND PRODUCTION

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/MRP 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





machine. However in real life you often discover this too late.

**Our promise of success to you:** reduction in consumable costs, preventing complete breakdowns, increasing operating life.

### **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.**



SIMPLY MORE

**MESSER**  
360° SERVICE



**Consumables/  
Spare Parts**

**Remote Service 2.0**



**CAD/CAM  
Software-Support**

**eCommerce\***

**Academy Trainings**

**Service Level Agreements**



**DIAGNOSIS/ INSPECTION/  
MAINTENANCE/ REPAIR CENTER**



- Diagnosis/ Health Check:**
- Identification of risks on the unit/components
  - Process optimisation/ Correction measures
  - Repairs
  - Safety checks



- Inspection:**
- Annual check-up
  - Establish, analyse and evaluate the current condition



- Maintenance:**
- Annual preventative maintenance
  - Periodic maintenance after operating hours



- Repair Center:**
- Competent repair of your machine components
  - Use of original spare parts

**CONSUMABLES/  
SPARE PARTS**



- Consumables:**
- Individual Life Cycle consumable packages
  - Customer specific ordering service



- Spare Parts:**
- Individual Life Cycle spare parts packages
  - Professional technical clarification

**REMOTE SERVICE 2.0**



- eSupport:**
- Telephone support (Call) and Online access on your machine park



- eDiagnostics:**
- Analysis of faults and function on demand



- eCheck Ups:**
- Evaluation of the current condition of your machine with recommended measures



- eMonitoring:**
- Monitoring of operating conditions



- IT-Services:**
- Consulting and set-up of networks



- Application Manager:**
- Updates and backups

**CAD/CAM  
SOFTWARE-SUPPORT**



- Remote Service Support for CAD/CAM, OmniWin products

**eCOMMERCE\***



- Consumables, Spare Parts

**ACADEMY TRAININGS**



- Operators, applications technicians, CAD/CAM operators, Maintenance technicians, DIN EN 1090 Certification, Consultant, On Site Training

**SERVICE LEVEL AGREEMENTS**



- Compose requirements in individual Service Level Agreements
- All service modules individually, various combined or complete in the 360° All-In Service Package

**MESSER**   
Cutting Systems

**SERVICE SUPPORT  
(Free of charge for  
contract customers)**

Tel.: +49 (0) 6078-787-600  
E-Mail: support@messer-cs.de

**CONSUMABLES  
AND SPARE PARTS**

Tel.: +49 (0) 6078-787-601  
E-Mail: parts@messer-cs.de

**REPAIR CENTER**

Tel.: +49 (0) 6078-787-483  
E-Mail: repairs@messer-cs.de

**ACADEMY**

Tel.: +49 (0) 6078-787-787  
E-Mail: academy@messer-cs.de

\* Under construction

# MESSER

## 360° SERVICE



Combine your original Messer machine with the original Messer service support and ensure the maximum availability of your system and thus an important part of your business success.

With the **360° Messer service concept** we offer you Service Level Agreements, which you can match individually and flexibly to your requirements: For a fixed price, for a fixed duration.



## DIAGNOSIS/ INSPECTION/MAINTENANCE/ REPAIR CENTER

### Locally on your premises

In case of a breakdown we can be with you on the spot if required. You may be sure that our specialists are always up to date on the latest state of technology and know your unit well. With remote access our support technicians can already make a reliable remote diagnosis in advance and plan what needs to be done.



## CONSUMABLES/ SPARE PARTS

### The originals procured quickly

- Stocking of all normal articles in our European central stores
- Fast processing and dispatch in the event of a breakdown
- Dispatch from the central stores near Frankfurt/Main within one working day as a rule

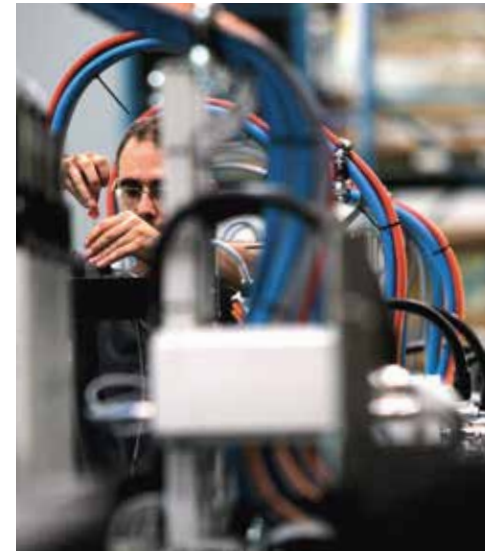


## eCOMMERCE

### Around the clock

With eCommerce we make available various electronic business processes – use our network for the purchase of goods and services.

Our eCommerce Service will be a platform which puts you, as customer, in the centre of a 360° service.



# MESSER

## 360° SERVICE



### CAD/CAM SOFTWARE-SUPPORT

#### Current and fitting

We offer the complete range of the most modern CAD/CAM support: from telephone Hotline and Remote Support through Update and extension programmes right up to Workshops and Expert dialogs.



### REMOTE SERVICE 2.0

#### Only a link away

- Multi-media communication using M2M technology
- Prioritised support in the case of service need
- Guaranteed reaction time
- Technical quarterly report 2.0 (TQR) on your machine park



### ACADEMY

#### Fit for excellence & fit for more

In times of increasing competitive pressure it is only logical to invest in the know-how and competence of your employees. In the Messer Cutting Systems Academy in Groß-Umstadt technical knowledge is imparted effectively and also practically close to the machine. The combination of methods and media lets you and your staff experience practically based training and so makes it possible for you to get the optimum out of plant, equipment and software.



### SERVICE LEVEL AGREEMENTS

#### Contracts tailored individually

With the Messer Service concept you can compose your requirements in individual Service Level Agreements – over a long period: All service modules individually, various combined or complete in the 360° All-In Service Package.



1898



Foundation of Frankfurter Acetylen-Gas-Gesellschaft, Höchst am Main

1903



Ernst Wiss develops the first oxyfuel cutting torch

1908



Market launch of product range for oxyfuel welding and cutting using the brand name "Original Messer"

1911



Messer & Co. GmbH; move into US market

1932



Production of arc welding electrodes

1945



Rebuilding Adolf Messer GmbH

1946



Expansion in Europe and the US driven by Adolf Messer

2000



Foundation of MEC Holding GmbH by merger of Messer Cutting & Welding GmbH with the Eutectic Castolin Group

2004/05



The Messer family, led by Stefan Messer, acquires all company shares

2007



Messer Cutting Systems starts off manufacturing in Brazil

2008



Foundation of MesserSoft and manufacturing site Messer Cutting Systems, India

2011



The entire corporate Head Office moves into Bad Soden

2012



Founding of the Messer Cutting Systems Academy

## PIONEER IN ELECTRIC WELDING COMMITTED TO TRADITION

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.

1898  
120 Years  
2018

Messer GMBH



Messer India

1953



Dr. Hans Messer  
assumes control

1965



Merger with Knapsack-Griesheim AG  
(Hoechst) to form Messer Griesheim GmbH

1970



First CNC and laser cutting  
system on the market

1978



MG Systems & Welding  
manufactures flame  
cutting machinery sold  
in North America

1995



Foundation of Messer  
Cutting & Welding, China

1998



Stefan Messer becomes  
member of Executive Board

2013



Messer Cutting Systems India set up their  
own factory

2015



Completion of the second building phase  
in China

## MANY COMPETENCIES. ONE WORLD. 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 CO<sub>2</sub> 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.



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Cutting Systems

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Cutting Systems

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[www.messer-cs.com](http://www.messer-cs.com)

