

FORWORD

FIT FOR EXCELLENCE

“Our employees are our most important asset!” In times of increasing competitive pressure it is only logical to invest in the competence and know-how of your employees. After all, not only the machines should work productively but also the people who program, operate and maintain them.

In the Messer Cutting Systems Academy in Gross-Umstadt technical knowledge is imparted effectively, and always practically, based on the machine. Experienced trainers are also happy to respond to the questions from participants. The training content is available on paper as back-up, but is also accessible everywhere and at all times on the on-line platform. This combination of methods and media allows the participants to experience a practical based training and enables them to get the maximum out of their equipment and software. So they get all the tips and tricks to cut their material even better and faster.

And if you cannot come to us, we can train on request in your premises. **So, see you soon!**

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FIT FOR MORE
OUR COURSES FOR MACHINE OPERATORS



FIT FOR MORE

We make your operators into professionals – so that you can generate productivity from work.

How? Quite simply in that we impart to your operators the knowledge of how to get the best out of your cutting system.

OUR COURSES FOR MACHINE OPERATORS

These courses have been developed for operating personnel and future service technicians who should get to know the machine operation. Thus they are appropriate for new employees but also for experienced ones, who should operate a newly acquired cutting machine with other cutting processes or operate the newest control.

The courses are structured by content as:

- >> Basic courses e.g. in the operation of the control or vertical cutting for a cutting process
- >> Advanced courses e.g. bevel cutting or the compact intensive courses

1.1 BASIC COURSE

Operating the CNC control "Global Control" or "Global Connect"

You will learn the safe and efficient use of the CNC control of a cutting machine.

Syllabus:

- > Operating a CNC cutting machine
- > Putting a machine into operation and making the necessary settings
- > Configuring the settings
- > Carrying out a diagnosis
- > Independently processing a production order

NOTE:

Please bring your personal protection equipment for the practical part of the course



Duration: 2 days

Participants: operators and service personnel for a CNC cutting machine



1.2 BASIC COURSE

Oxyfuel flame cutting vertical

You will learn how to cut a work-piece out on a cutting machine safely and exactly with simple vertical cuts.

Syllabus:

- > How an oxyfuel flame cutting machine functions
- > Standards and regulations, quality and dimensional accuracy, working safety and environmental guidelines
- > Setting up a machine
- > Cutting out a work-piece
- > Analysis of defects, process optimisation
- > Carrying out a production order independently
- > Practical projects for participants

NOTE:

Please bring your personal protection equipment for the practical part of the course

Duration: 2½ days Participants: operators and service personnel for a CNC cutting machine



1.3 BASIC COURSE

Plasma cutting vertical

You will learn how to cut a work-piece out of plate on a plasma cutting machine safely and exactly with simple vertical cuts.

Duration: 2½ days Participants: operators and service personnel for a CNC cutting machine



Syllabus:

- > How a plasma cutting machine functions
- > Standards and regulations, quality and dimensional accuracy, working safety and environmental guidelines
- > Setting up a machine
- > Cutting out a work-piece
- > Analysis of defects, process optimisation
- > Carrying out a production order independently
- > Practical projects for participants

NOTE:

Please bring your personal protection equipment for the practical part of the course

1.4 INTENSIVE COURSE

Oxyfuel and plasma cutting vertical with operation of the "Global Control" or "Global Connect"

You will learn how to cut a work-piece with oxyfuel or plasma cutting with simple vertical cuts on a CNC cutting machine.

Duration: 5 days Participants: operators and service personnel who already have experience of a cutting process or the operation of a CNC cutting machine



Syllabus:

- > The functioning principles of plasma and oxyfuel cutting
- > Standards and regulations, quality and dimensional accuracy, working safety and environmental guidelines
- > Operating a CNC controlled cutting machine
- > Preparing a machine for operation and making the necessary adjustments
- > Configuring the settings
- > Carrying out diagnoses
- > Setting up the machine
- > Analysis of defects, process optimisation
- > Carrying out a production order independently

NOTE:

Please bring your personal protection equipment for the practical part of the course

1.5 ADVANCED COURSE

Oxyfuel bevel cutting

The prerequisites for participating in this course are having already completed the courses “Operating the Global Control or Global Connect” and “Oxyfuel cutting vertical”. You will learn how to make bevel cuts on the cutting machine.

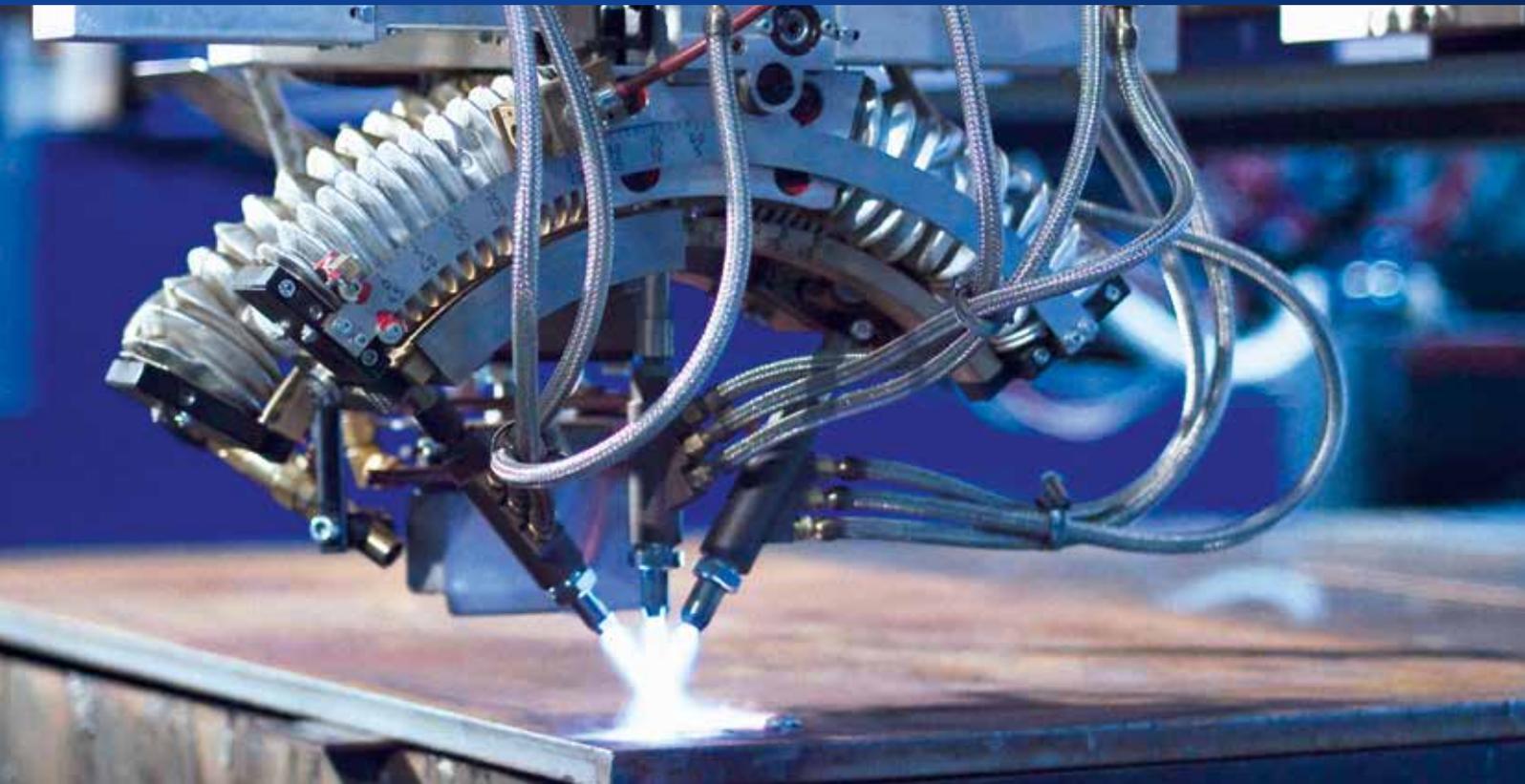
Syllabus:

- > The functioning principle of oxyfuel bevel cutting
- > Technical limitations for bevel cutting
- > Basics of the technology
- > Establishing the cutting parameters for customer specific material
- > Operation of the process modules
- > Setting up the machine
- > Avoiding cut defects
- > Making a fault analysis (plus maintenance instructions)
- > Practical project “Oxyfuel bevel cutting on the machine”

NOTE:

The practical exercise will be made on a DAFL unit. Please bring your personal protection equipment for the practical part of the course

Duration: 2½ days Participants: operators and service personnel for a CNC cutting machine



1.6 ADVANCED COURSE

Plasma bevel cutting

The prerequisites for participating in this course are having already completed the courses “Operating the Global Control or Global Connect” and “Plasma cutting vertical”. You will learn how to make bevel cuts on a plasma cutting machine.

Duration: 2½ days Participants: operators and service personnel for a CNC cutting machine



Syllabus:

- > The functioning principle of plasma bevel cutting
- > Technical limitations
- > Details of plasma bevel cutting technology
- > Determining the cutting data for plasma bevel cutting
- > Setting up the machine
- > Avoiding cut defects
- > Making a fault analysis (plus maintenance instructions)
- > Carrying out a practical project

NOTE:

The practical project will be carried out on a Skew Rotator Infinity. Please bring your personal protection equipment for the practical part of the course

1.7 ADVANCED COURSE

Operating the drilling unit

The prerequisite for participating in this course is having already completed the course “Operating the Global Control or Global Connect”. You will learn how to set up and operate the drilling unit.

Duration: 2 days Participants: operators



Syllabus:

- > The construction and functioning principles of the drilling unit
- > Operating the drilling unit
- > Construction and function of the minimum lubrication system
- > Introducing new tools

NOTE:

Please bring your personal protection equipment for the practical part of the course

1.8 BASIC COURSE

Cutting with the fibre laser "PowerBlade" or "ELEMENT L"

You will learn how to cut a work-piece with a fibre laser with simple vertical cuts.

Duration: 5 days Participants: operators



Syllabus:

- > Operating the control
- > The functioning principle of laser cutting
- > Safety instructions for laser according to BGV B2
- > Setting up a machine
- > Using the cutting parameter database
- > Cutting of Mild and Stainless Steels
- > Fault analysis
- > Process optimisation
- > Carrying out a factory order independently

NOTE:

Training for bevel cutting is available on request.
Please bring your personal protection equipment
for the practical part of the course

1.9 BASIC COURSE

Cutting with the CO₂ laser "LaserMat"

You will learn how to cut a work-piece with a "LaserMat" with simple vertical cuts.

Duration: 5 days Participants: operators

Training for
bevel cutting
is available on
request

Syllabus:

- > Operating the control
- > The functioning principle of laser cutting
- > Safety instructions for laser according to BGV B2
- > Setting up a machine
- > Using the cutting parameter database
- > Cutting of Mild and Stainless Steels
- > Fault analysis
- > Process optimisation
- > Carrying out a factory order independently

NOTE:

Please bring your personal protection equipment for the practical part of the course

FIT FOR PURPOSE **OUR COURSES FOR SERVICE TECHNICIANS**



FIT FOR PURPOSE

We transform annoying maintenance into far sighted preventative care, so that you can generate uptime from downtime – and increase your productivity.

How? Quite simply: we impart to your staff the knowledge of what should be done to keep a cutting system always top fit and ready for use.

OUR COURSES FOR SERVICE TECHNICIANS

The advanced courses are intended for maintenance staff and service technicians who are to maintain and service the machine to ensure its correct functioning.

Successful completion of a course for a machine operator or evidence from the employer of corresponding practical experience is a prerequisite for participation.

2.1 ADVANCED COURSE

Global Control or Global Connect Service

The prerequisite for participating in this course is having already completed the course “Operating the Global Control or Global Connect” and a certificate as an electro technician. You will learn how to ascertain and restore the orderly functioning of a cutting machine by using a CNC.

Duration: 2 days Participants: service technicians



Syllabus:

- > Different types of control
- > Operating the system manager
- > Configuring the Global Control or Global Connect
- > Carrying out a fault analysis for plasma
- > Practical advice and tips on PLC sequences
- > Carrying out a PLC diagnosis
- > Characteristics of the MMI interface
- > Tips and tricks

NOTE:

Please bring your personal protection equipment for the practical part of the course

2.2 BASIC COURSE

ALFA torch service

The prerequisite for participating in this course is having already completed the course “Operating the Global Control or Global Connect” and a certificate as an electro technician. You will learn how to adjust the ALFA torch correctly mechanically and electronically.

Duration: 1 day Participants: service technicians



Syllabus:

- > Mechanical and electronic components of the torch
- > Setting up the ALFA electronics
- > Mechanical adjustment of the ALFA torch
- > Setting up the torch lifter (OL and SL) and the motor drive for height adjustment
- > Operating the oxyfuel gas flow control

NOTE:

If required, the PAN height sensing will also be covered. Please bring your personal protection equipment for the practical part of the course

2.3 ADVANCED COURSE

Oxyfuel bevel unit DAFL Service

The prerequisite for participating in this course is having already completed the course “Operating the Global Control or Global Connect” and “Global Control or Global Connect Service”. You will learn how to set up the unit mechanically and electronically.

Duration: 2½ days Participants: service technicians



Syllabus:

- > The functioning principle of the DAFL
- > Mechanical alignment of the unit
- > Electrical alignment of the unit
- > Establishing the tool centre point
- > Carrying out a fault analysis

NOTE:

Please bring your personal protection equipment for the practical part of the course

2.4 ADVANCED COURSE

Plasma bevel unit Skew Rotator Service

The prerequisite for participating in this course is having already completed the course “Operating the Global Control or Global Connect” and “Global Control or Global Connect Service”. You will learn how to set up the unit mechanically and electronically.

Duration: 2½ days Participants: service technicians



This course is offered for the Skew Rotator Infinity or the Skew Rotator Delta. The practical exercises will be made on the Skew Rotator Infinity.

Syllabus:

- > The functioning principle of the Skew Rotator
- > Mechanical alignment of the unit
- > Electrical alignment of the unit
- > Establishing the tool centre point
- > Carrying out a fault analysis

NOTE:

Please bring your personal protection equipment for the practical part of the course

2.5 ADVANCED COURSE

Drill unit Service

The prerequisite for participating in this course is having already completed the course “Operating the Global Control or Global Connect” and “Global Control or Global Connect Service”. You will learn how to set up the drill unit and the necessary settings in the Global Control or Global Connect.

Syllabus:

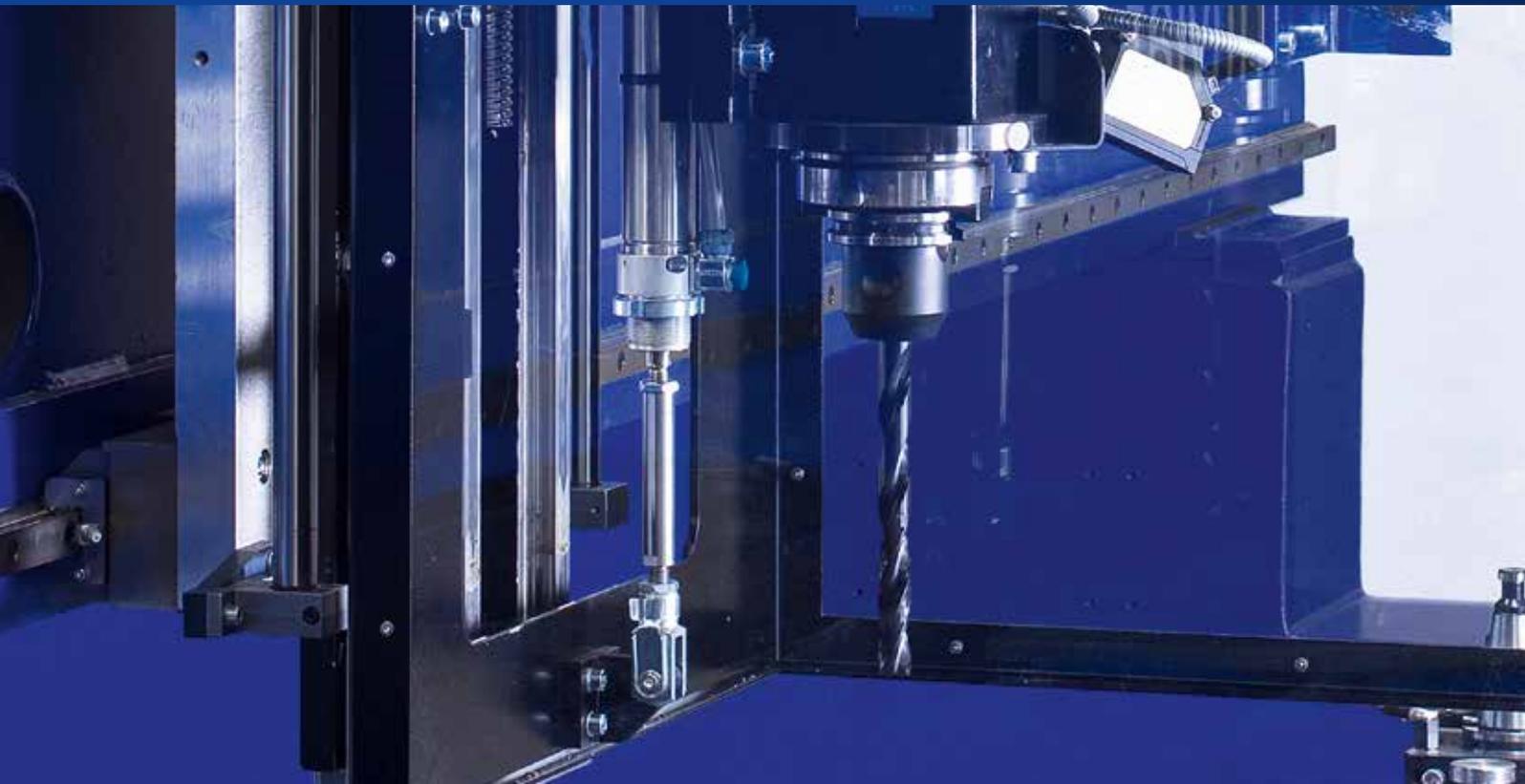
- > The construction and function of the drill unit
- > Setting up the initial height sensing
- > Mechanical alignment of the unit
- > Electrical alignment of the unit
- > Layout and function of the minimum lubrication
- > Defining the changeover position (Multiple tool changer)
- > Setting up new tools
- > Making settings in the “Global Control” or “Global Connect”
- > Operating the drill unit
- > Introduction of new tools
- > Carrying out a fault analysis

NOTE:

Please bring your personal protection equipment for the practical part of the course



Duration: 3 days Participants: service technicians



FIT FOR PROCESSING OUR COURSES FOR PROGRAMMERS



FIT FOR PROCESSING

We transform workers into preparers, who optimise material and resources ... so that you can achieve your full performance potential.

How? Quite simply: in that we impart to your staff the (software) knowledge which allows operations to become simpler and more transparent.

OUR COURSES FOR PROGRAMMERS

These courses are intended for participants who create CNC programs for production. The course contents build upon each other. Thus participation depends upon the level of experience of the participants.

We offer:

- >> Basic courses for new entrants into the field of CNC programming with nesting software. (Ideally the participants should already be familiar with the thermal cutting processes).
- >> Advanced courses for more complex applications, e.g. bevel cutting and drilling.

3.1 BASIC COURSE

OmniWin group 2024: Introduction to the design and nesting software

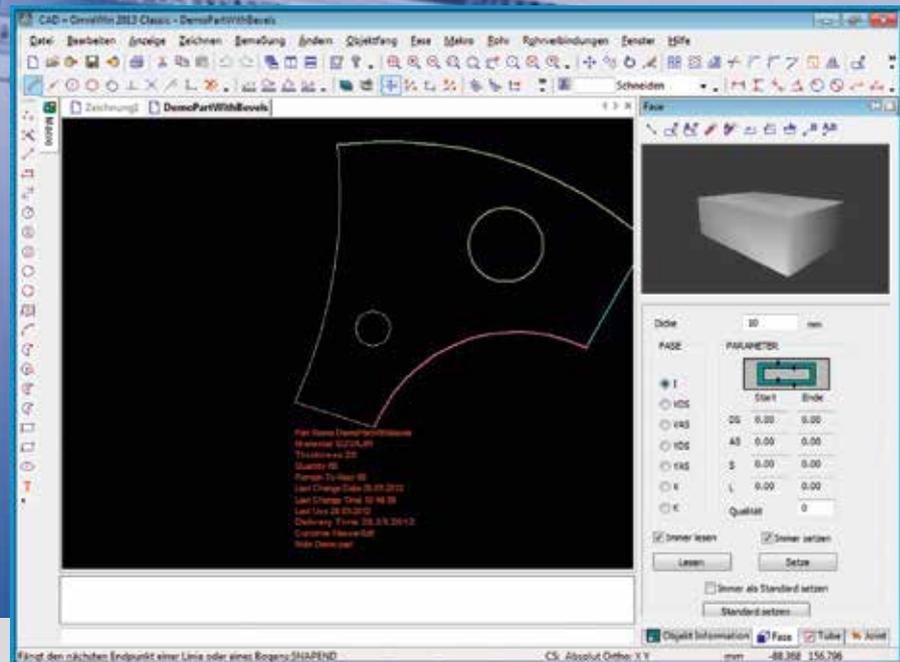
A large proportion of our refined training concept is made up of practical exercises. You will learn the path from part design right up to complete NC programs for your cutting machine.

Syllabus:

- > Characteristics of a coordinate system in the machine and software
- > CAD functions
- > Practical exercises: construction of parts of increasing difficulty
- > Transfer of drawings from other systems
- > Basic knowledge of process characteristics
- > Allowing for process characteristics in constructing or taking over third party drawings
- > Definition of machine and process parameters taking into account the process characteristics
- > Practical exercises: basic nesting techniques for optimum material utilisation
- > Practical exercises: Independent execution of a production order "from drawing to finished part", including cutting it on the machine

**Improved
Practical
relevance:**
Actual production
orders will be
processed on a
cutting machine

Duration: 5 days Participants: starters in the field of correct design for cutting processes and creation of CNC programs using nesting software "OmniWin group"



3.2 ADVANCED COURSE

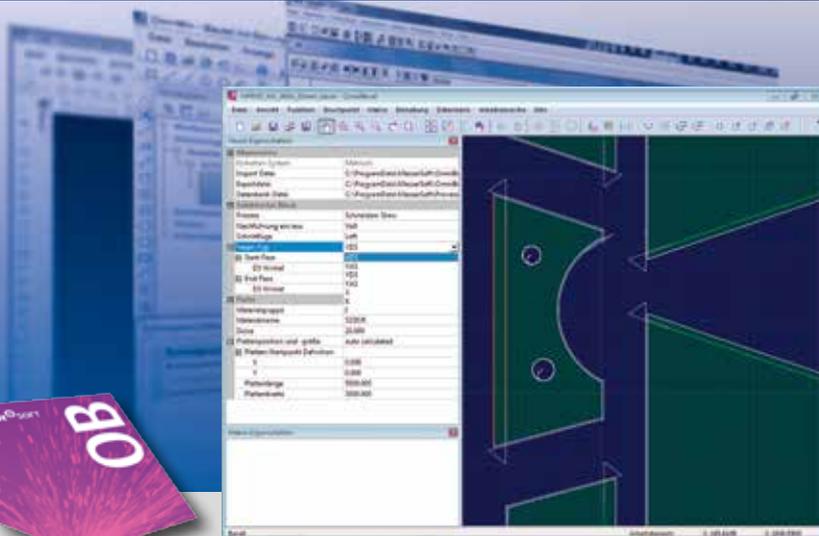
OmniBevel 2024

You will learn how bevel cuts are prepared properly and carried out.

Duration: 5 days Participants: personnel with experience in the fields of programming software and the cutting process who are also to make programs for the mechanised bevel head

Syllabus:

- > Determining factors influencing bevel cutting
- > Technical limits on bevel cutting
- > Sequence of operations in the software when bevel cutting
- > Structure of the OmniBevel 2023 database
- > Establishing cutting parameters for bevel cutting
- > Independent execution of a production exercise "From drawing to part with weld preparations made"



3.3 ADVANCED COURSE

OmniWin group 2024 with drill support:

It is necessary to have already completed the course “OmniWin 2024” and, if applicable for bevel application, the course “OmniBevel 2024”. You will learn how to set up a drilling unit and put it into operation.

Duration: 2 days Participants who are responsible for the programming of drilling units

Syllabus:

- > Determining factors influencing drilling
- > Technical limits for drilling on the machine
- > Structure of the drill database
- > Configuration of the software for drilling
- > Sequence of operations in the software
- > Independent execution of a production order
“From drawing to part with cutting and drilling”

IMPORTANT:

For this course the above prerequisites
must be met!



FIT FOR SPECIALS **OUR WORKSHOPS**



FIT FOR SPECIALS

We help Managers – so that they can get more out of their company ... to achieve targeted optimisation.

How? Quite simply: in that you decide who from which area should get special treatment in which special areas.

OUR WORKSHOPS

Our workshops are concerned intensively and in a compact form with special topics for experienced employees.

4.1 WORKSHOP

Avoiding cutting defects when cutting with plasma and oxyfuel

This workshop is intended for all customers who are interested in improving the cutting quality in their operation.

Duration: 1 day Participants: operators and programmers who are interested in improving the cut quality in their factory



Syllabus:

- > The most common cutting defects
- > Pointing out solutions
- > Exchange of experience

NOTE:

Please bring your personal protection equipment for the practical part of the course

4.2 WORKSHOP

Messer Hole Technology for True Hole and Contour Cut support – speed and height sensing control

You will learn how the optimisation of cutting parameters in the software can improve the contouring accuracy.

Duration: 1 day Participants: programmers who already have in depth experience with the OmniWin programming software



Syllabus:

- > Configuring the settings
- > Carrying out diagnoses
- > Setting up the machine
- > Cutting the program
- > Analysis of defects and process optimisation

NOTE:

Please bring your personal protection equipment for the practical part of the course

4.3 WORKSHOP

How can I avoid cutting defects and optimise production with the programming software?

You will learn how to integrate the software to the optimum into your operating cycles to produce the highest quality parts without defects.

Syllabus:

- > Defining the sequence for cutting and marking contours
- > Selecting the positions, geometry and parameters of lead-ins
- > Making hole piercings in advance and reducing their number
- > Using speed and height sensing control when crossing cutting kerfs
- > Reducing thermal distortion by stabilising parts

NOTE:

Please bring your personal protection equipment for the practical part of the course



Duration: 1 day

Participants: programmers who already have in depth experience with the OmniWin programming software



4.4 WORKSHOP

Supporting the drill in the programming centre and on the machine

You will learn how to integrate the drilling process into an optimised operating sequence to produce high quality components efficiently.

Duration: 1 day Participants: programmers who already have experience with the OmniWin programming software and the integrated drill support



Syllabus:

- > Integrating the drill in software and machine
- > Learning the technical limitations of drilling on a cutting machine
- > Making hole piercings in advance with the drill
- > Extending the depth of production by tapping – what must be watched for?

NOTE:

Please bring your personal protection equipment for the practical part of the course

4.5 WORKSHOP

**Workshop qualified person
for working media to BGR 500 –
chapter 2.26 item 3.72**

Attention! This workshop focusses on the products which are relevant for safety. You will learn everything which you need to know for technically competent repairs of our oxyfuel equipment and cylinder regulators as well as the maintenance of these tools.

Duration: 2½ days Participants: personnel who themselves carry out repairs/maintenance on tools for the oxyfuel process or who supervise staff who are making repairs



Syllabus:

- > The functioning principle and construction of oxyfuel equipment
 - > Standards and regulations, quality and dimensional tolerances, working safety and environmental guidelines
 - > Analysis of faults
 - > Repair tools and auxiliary equipment
 - > Testing methods, testing equipment and testing instructions
 - > Tips and tricks
 - > Participants' repair objects
- This training ends with a test.

**Safe handling
of safety relevant
items including
testing them**

NOTE:

**Please bring your personal protection equipment
for the practical part of the course**

4.6 WORKSHOP

Bevel cutting with plasma

You will learn how to integrate the OmniWin software and the system to give optimum operating sequences, to produce components in high quality effectively. Use the chance and make the best of an intensive practical day for your practice, every day!

Syllabus:

- > Discover the technical limitations of bevel cutting
- > Understand the operating instructions for the equipment
- > Evaluate the magnitude of influences and tolerances
- > Establish cutting parameters – how is it done correctly?
- > Carry out feasibility analysis on the basis of enquiries



Duration: 1 day

Participants: programmers and operators who already have experience on the programming centre software or on the machine



4.7 WORKSHOP

“Intensive training OmniWin CAD” – introduction to the CAD system

Prerequisites:

- > Technically oriented career training
- > Basic knowledge of MS Windows
- > Knowledge of the cutting process used
- > User experience with a CAD system

Aims:

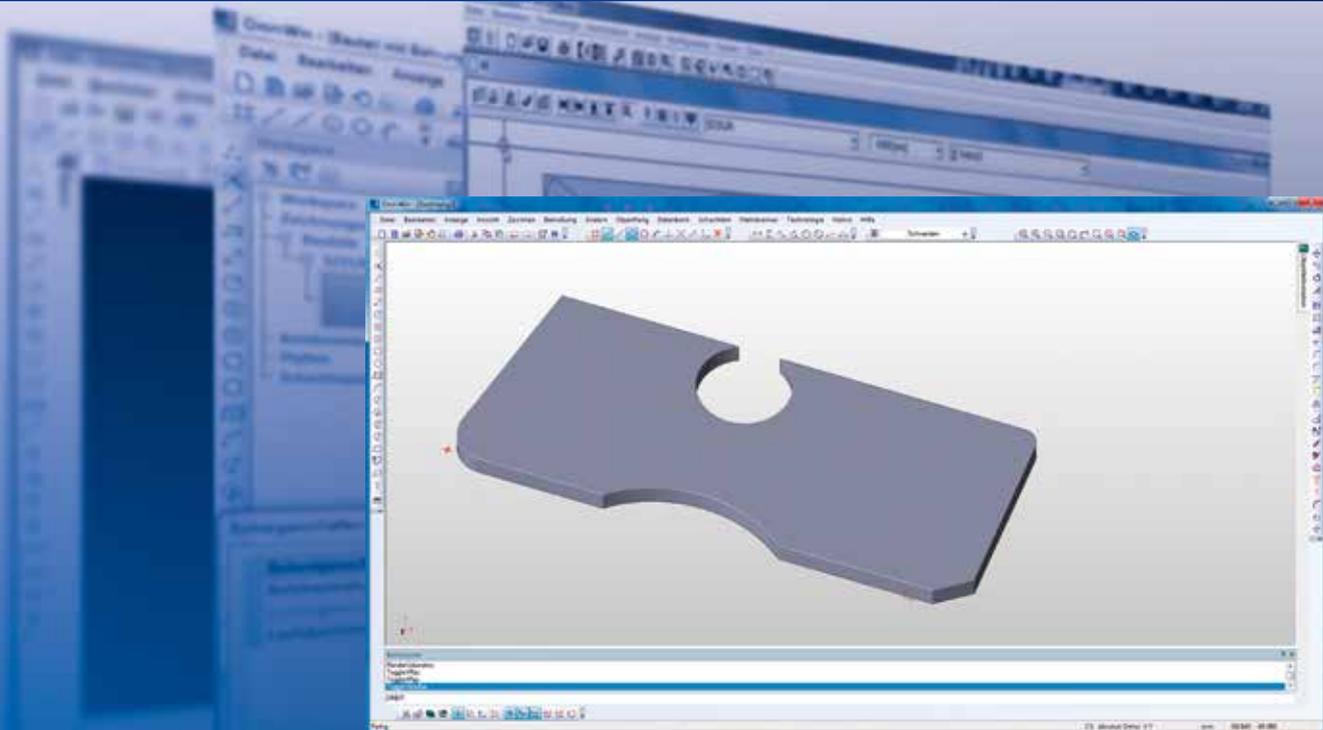
After completing the course the participants will be able to ...

- > Apply the different coordinate systems
- > Create a drawing in a structured and process oriented manner
- > Design appropriately for thermal cutting

Syllabus:

- > How can parts be imported?
- > What coordinate systems exist?
- > What is the basic way of working in the CAD module?
- > How do I allow for the application limits of thermal cutting already at the design stage?

Duration: 1 day Participants: This training is directed at personnel who are already working with OmniWin or OmniWin Classic, but have not previously used the integrated CAD module





CREATING SOLUTIONS BEYOND MACHINES

WHAT WE STAND FOR

PRODUCT

AUTOMATION

DIGITAL

SERVICES

KNOW-HOW

Messer Cutting Systems is a global supplier of cutting-edge technology for the metalworking industry. With over 900 employees worldwide in over 50 countries, we maintain a constant dialogue with our customers to achieve sustainable user-oriented innovation.

Our portfolio embraces the themes PRODUCT, DIGITAL, SERVICES, AUTOMATION and KNOW-HOW. We will live up to our claim “Creating Solutions Beyond Machines” not just with the most modern cutting systems and solutions for oxyfuel technology.

Appropriate services and training, our own software applications as well as the integration of solutions from our technology partners, e. g. in the field of automation, complete the machine to give forward looking total solutions.

Our Know-how combined with our customer-oriented attitude and actions make us the world-wide partner of choice for innovative total solutions on all aspects of cutting systems for 125 years.

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