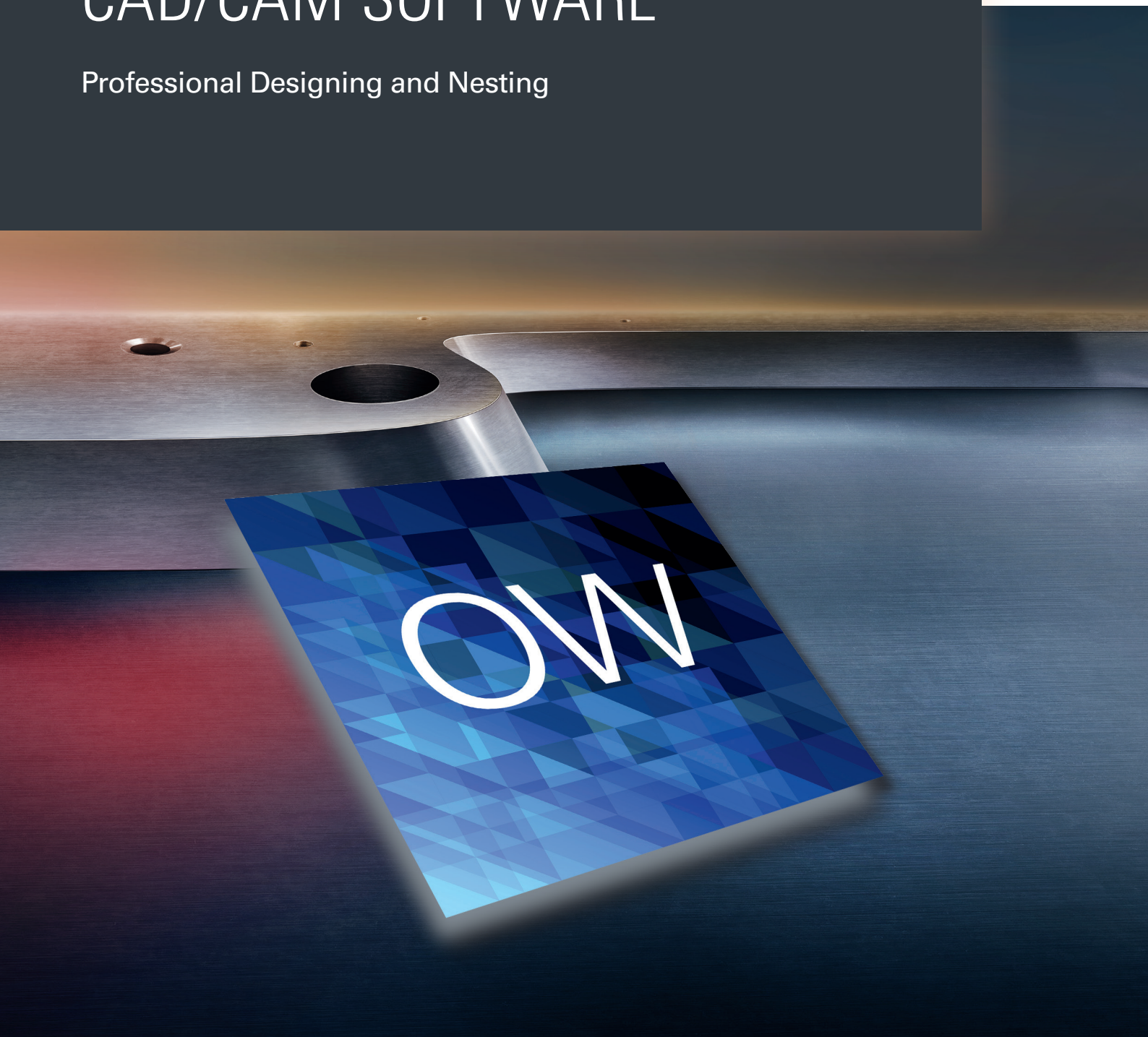
MESSER
Cutting Systems

OMNIWIN 2022
CAD/CAM SOFTWARE

Professional Designing and Nesting



DIGITAL

OMNIWIN 2022

DESIGN AND NESTING FOR NUMEROUS TASKS

SPEEDING UP AND SIMPLIFYING WORK PROCESSES

OmniWin combines the highest technical flexibility with fast, efficient processing. At the same time you will reduce your costs by minimizing material usage. The integrated operation with CAD, import and nesting for vertical and beveled parts permits a dramatic simplification of your working processes.

HIGHEST CUT QUALITY GUARANTEED

With OmniWin you can nest your parts in an extremely material-saving manner. The NC nesting plan generated in OmniWin ensures fast, efficient processing with high cutting quality. You fully exploit the technological possibilities of your machine, e.g. with True Hole® or Contour Cut.

WIDELY APPLICABLE

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. You save time and materials and work with easy operations.

IDEAL TOOL FOR PRODUCTION PLANNING

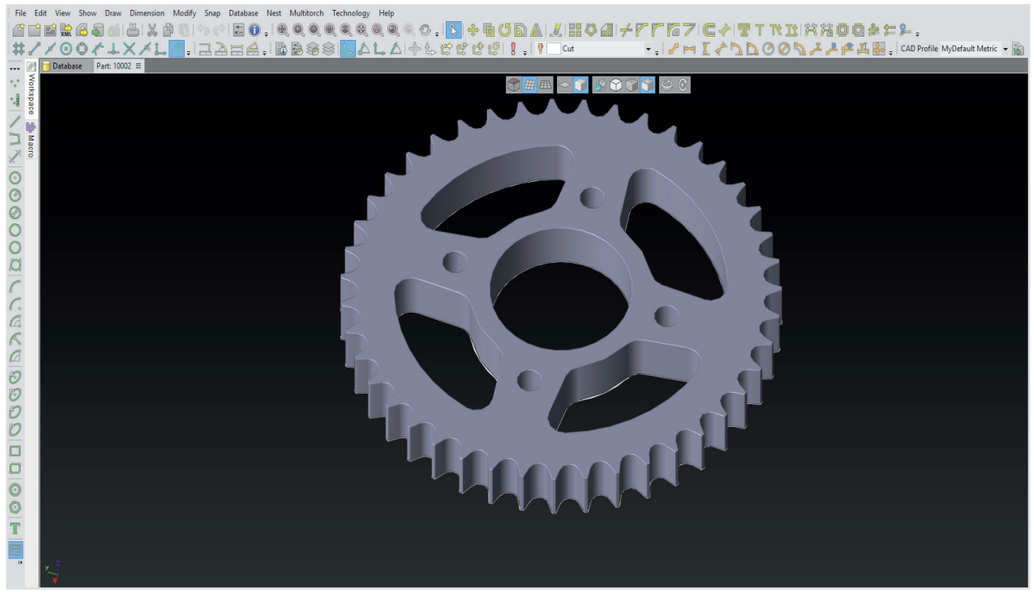
OmniWin is the ideal tool for production planning with thermal cutting for oxyfuel, plasma and laser cutting with CNC machines.

The result:

You save time and material with the simplest operation. This leads to increased production efficiency and a competitive edge.

Simple, effective and fast constructing and nesting.

OmniWin is a simple, clear and fast designing 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.



USER INTERFACE

EVERYTHING IN ONE

OmniWin provides you with a CAD system in which you have an integrated working environment for drawing parts, importing existing drawings, creating nesting plans and finally generating the NC output all within the same application.

The operator interface with its clear overview is particularly practical here, it is available in numerous languages and its wide ranging functionality can be used intuitively for daily applications.

OmniWin supports both the Metric (millimeter) and the Imperial system (inch).

PARTS

DESIGN QUICKLY

With OmniWin you can create parts simply and quickly in the integrated CAD system. To do this, there are numerous positioning, drawing, modifying, grouping and labeling functions available, which are familiar from other professional CAD programs.

Standard parts can be created in seconds using macros with variable parameters. You can apply automatic dimensions to parts or plates easily. Cutting requirements such as converting markings into closed contours or line contours are taken into account.

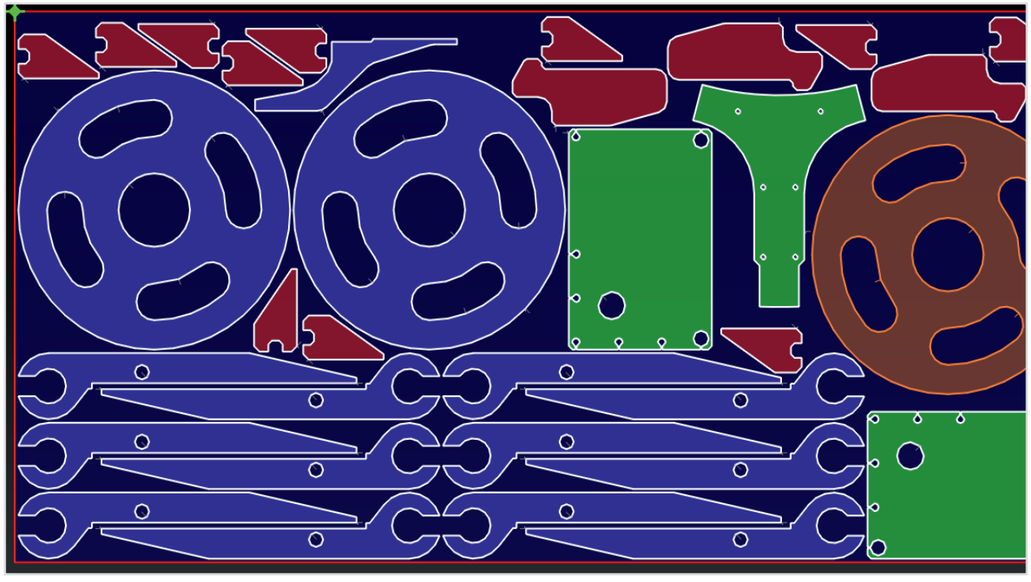
A 3D view for vertical and bevel parts gives you a realistic view of the part geometry.

CAD-SYSTEM WITH INTEGRATED WORKING METHODS

- **Draw parts, import existing drawings, create nesting plans and finally generate the NC output**
- **User interface available in numerous languages**
- **Supports both the Metric (millimeter) and the Imperial system (inch)**

DESIGN PARTS AND PATES SIMPLE AND QUICK

- **Numerous positioning, drawing, modifying, grouping and labeling functions**
- **Parameterizable macros**
- **Automatic dimensions to parts or plates**
- **3D view for vertical and bevel parts**



PART IMPORT

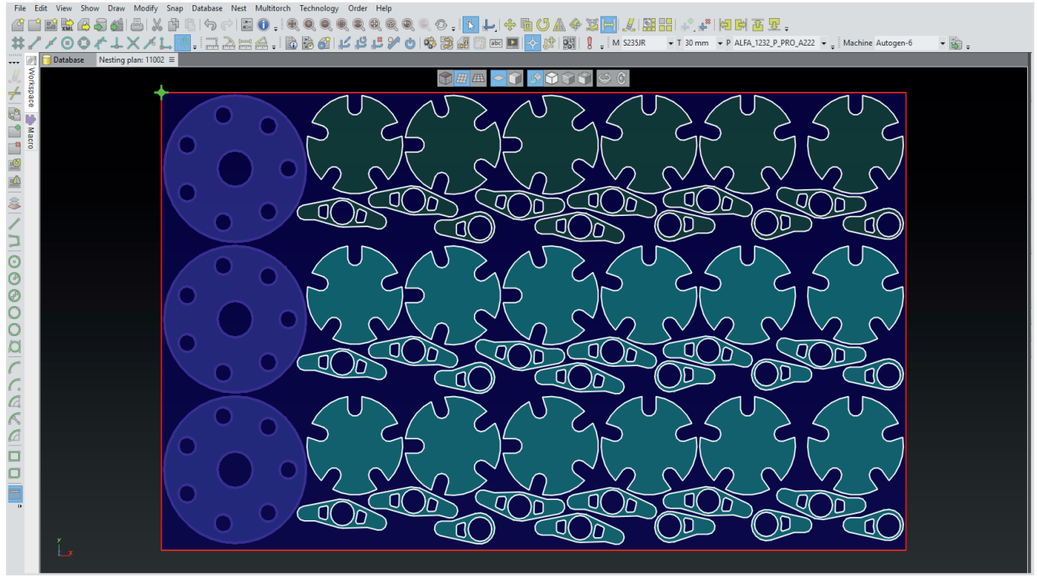
SIMPLE AND RELIABLE

If a part drawing already exists in the form of a DXF, DWG, DWF, DSTV or IGES file then it is a simple task to bring it into the system with our integrated import function. The parts will be converted to the necessary format and with our automatic layer interpretation be allocated to the desired processes.

You are supported during import with various automatic error corrections and the possibility to take over component meta data as well.

Import 3D parts and 3D assemblies from SolidWorks with integrated SolidWorks or Autodesk Inventor interface.

OmniWin also allows individual modifications to the technology of single nested parts, which can then be applied to other identical parts. Messer Hole Technology can also be applied for the plasma cutting of circular inner contours to optimize the quality of the cut depending upon the unit used.



NESTING PLANS

LARGE SELECTION

To create a new nesting plan it is only necessary for you to select your preset machine profile, the material and thickness used, and the cutting process. You can define the plate as new with rectangular dimensions or select it from the database. Finished! You nest the parts out of an ergonomically designed workspace using Drag & Drop with automatic collision control.

The part-part and part-plate distances, as well as the added lead-ins and lead-outs, with their shape and length, are determined by the parameters stored in the configurable technology database. Manipulation of parts such as copy, rotate, mirror, move with collision control is performed with one tool. The sequence of parts and contours can be defined manually or automatically, rule based.

MULTIPLE TORCH NESTING

REDUCES TIME

Nesting for machines with multiple identical torches is an integral component of OmniWin 2021. This supports both machines with and without automatic torch carriage positioning.

Changing spacing between torches in the same plan and adding or subtracting active torches dynamically is possible. Automatic nesting also supports multiple torch operation. You get a highly optimized plan quickly with dramatically reduced production times.

CREATE YOUR QUOTATIONS QUICKLY AND RELIABLY

- **Import of part drawings in DXF, DWG, DWF, DSTV or IGES format**
- **Automatic layer translation**
- **Automatic error correction**
- **Transfer of part meta data**

PROVIDE YOUR CUSTOMERS WITH TRANSPARENCY ON THEIR ORDERS AT ALL TIMES

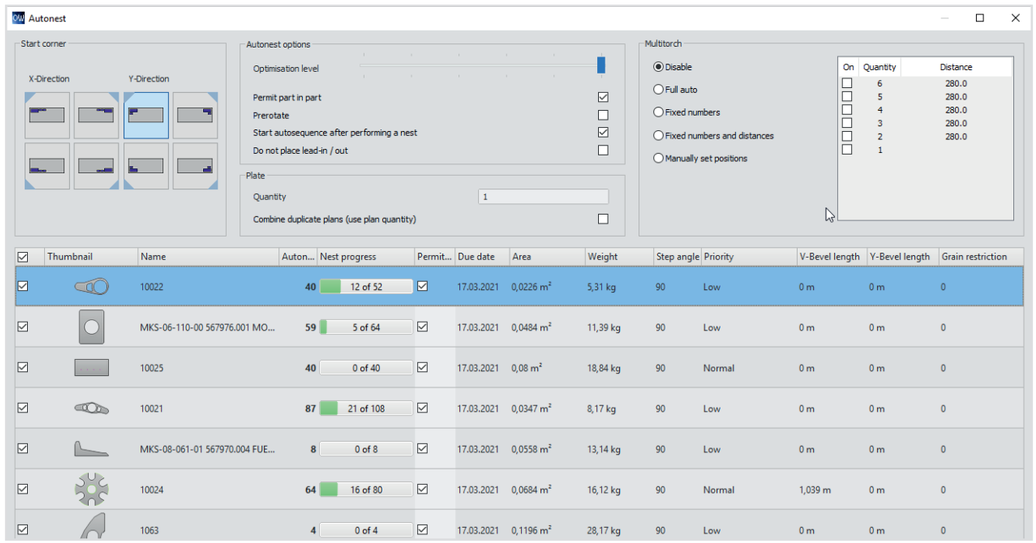
- **Easy import via SolidWorks or Autodesk Inventor interface**
- **Transfer technologies of nested parts to identical parts**
- **Messer Hole Technology**
- **Optimization of cutting quality**

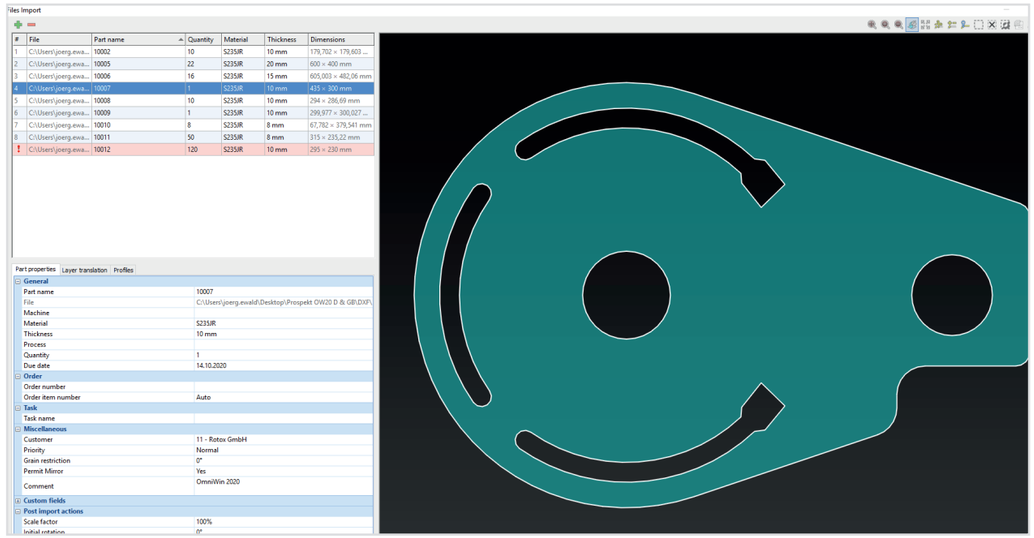
NESTING PLANS FAST AND OPTIMIZED

- **Drag & drop nesting with automatic spacing control**
- **Configurable technology database**
- **Copy, mirror, rotate and move with collision control**
- **Component and contour sequences automatically optimized based on rules or manually defined**

MULTIPLE TORCH NESTING WITH IDENTICAL CUTTING HEADS

- **Supports machines with and without automatic carriage positioning**
- **Changing of torch distances in the same plan**
- **Dynamic connection and disconnection of torches**
- **Automatic nesting for multiple torch heads**





BASIC VERSION

OmniWin Standard

PROFESSIONAL NEW DESIGN OF PARTS

+ Extensive collection of parameterized macros for fast definition of standard parts
+ Extensive drawing functions for geometric shapes and labeling
+ Support of absolute and relative as well as polar and orthogonal coordinates
+ Conversion of text objects into closed contours and/or line contours
+ Alignment of text objects to arcs
+ A wide range of Zoom, Snap, Convert and Group functions e.g. trimming of protruding contours
+ Insertion of dimensioning objects
+ Automatic dimensioning
+ Definition of bevel information and quality attributes on sub-contours
+ 3D view of vertical cut or bevel parts
+ Optional setting of start points per contour
+ CAD profiles to support individual configurations

EASY IMPORT OF PART DRAWINGS

+ 2D multiple file import of DXF, DWG, DWF, DSTV, and IGES
+ 3D import of parts and assemblies
+ Formats with automatic error correction
+ SolidWorks or Autodesk Inventor interface
+ Automatic/manual translation of layer to process information
+ Transfer of part meta data from the drawing
+ User configurable file handling such as renaming or deleting of files after a successful import
+ Choice between import of a drawing or straight import into part database table
+ Single import of DIN, ESSI, and XML Drawings
+ Reading in of graphic files (incl. JPG, PNG) e.g. scans with recognition of part contours

INTEGRATED CAD-SYSTEM

+ **For the drawing and importing of parts**
+ **Error correction, nesting of parts and creation of production data in a single application environment without additional steps or interfaces**

SIMPLE AND INTUITIVE INSTALLATION AND OPERATION

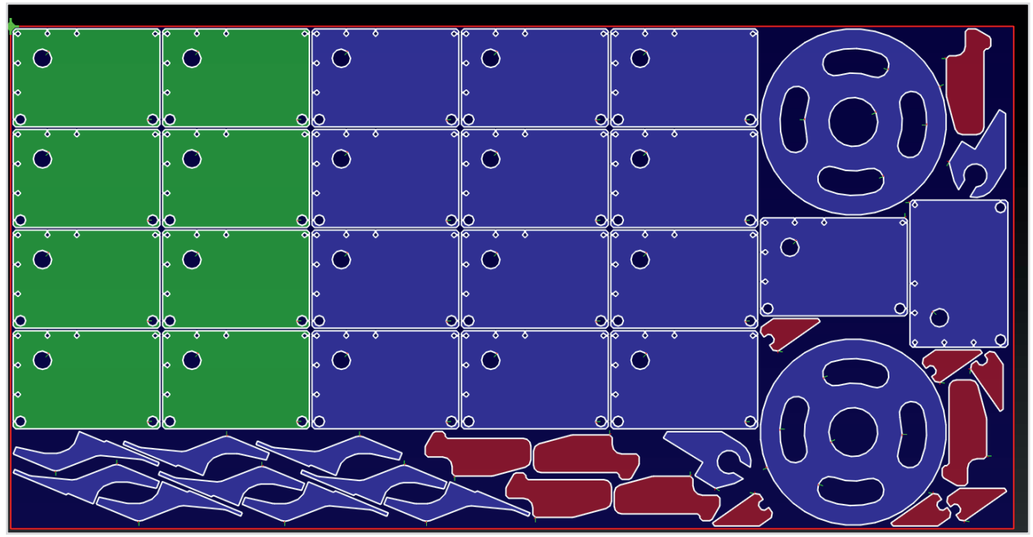
+ **Parallel installation with previous version possible**
+ **Data migration from the previous version possible**
+ **User Interface available in numerous languages**
+ **Metric and Imperial measurement**

COMPREHENSIVE MACHINE SUPPORT

+ **Oxyfuel, plasma and laser**
+ **Supports multiple marking processes such as OmniScript, Rea ink jet, punch, laser and plasma marking**
+ **Supports multiple plate supports on one machine**

EXTENSIVE PRECONFIGURERATIONS

+ **Prefconfigured post processors for standard machines**
+ **Preconfigured machine profiles for standard machines**
+ **Preconfigured process databases**



BASIC VERSION

OmniWin Standard

INNOVATIVE NESTING

+ Interactive nesting with tools including collision control for fast copy, move, rotate of parts or groups of parts
+ With collision control in a nesting plan
+ Mirroring of parts, nesting in rows or in a matrix
+ Automatic creation of lead-ins and -outs based on material and thickness using database stored technology

WITH OPTIMUM USE OF AREA

+ Automatic optimization of part, inner contour and process sequence
+ Reduction of non-productive time by the optimization of rapid traverse movement as well as lifter time
+ User selectable shapes, parameters and positions of lead-ins and lead-outs
+ User selectable cutting direction
+ Activate/deactivate contours
+ Automatic corner rounding

CONVENIENT AND VERSATILE FUNCTIONS

+ Transfer of part technology to identical parts in the same nesting plan
+ Transfer of geometrical changes to identical parts on the same nesting plan
+ Recalculation of lead-ins and –outs when material thickness is changed in the nesting plan
+ Simulation of the nesting plan
+ Precise control of cutting speeds for lead-ins and -outs

EXTENSIVE PRODUCTION DATA AND REPORTS

+ User based preview of NC programs and export of NC part plans, CSV, XML, DXF and DWG for nesting plans
+ Machine profile based configuration of storage locations for production data
+ Preconfigured production reports for parts and plans
+ Automatic configured printing of reports
+ Integrated report editor for easy manipulation of existing reports or creation of new reports

PROFESSIONAL TIME CALCULATION

+ **For standard, vertical cut parts**
+ **Based on geometry and the applicable process data**
+ **Such as cutting time, piercing time, machine specific times such as rapid traverse and activation time**

PROCESSING OF CNC NESTING PLANS

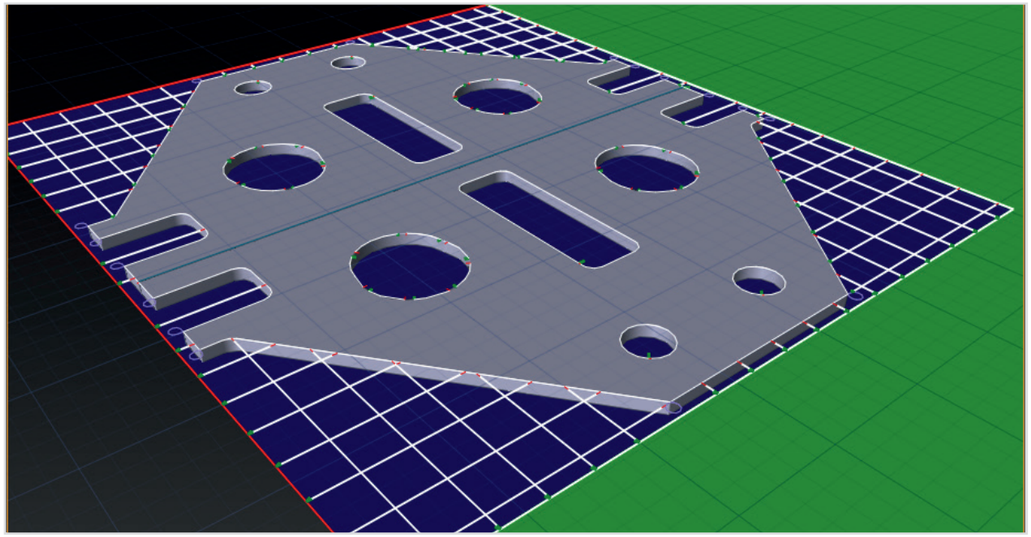
+ **Import of existing plans**
+ **ESSI and DIN formats are supported**
+ **Interactive simulation of cutting, marking and rapid traverse**
+ **Transfer of plan contours to part construction**

DEDICATED INDIVIDUAL WORKSPACE

+ **For drawings, parts, orders, plates, combined parts and nesting plans**
+ **For clearly arranged, fast and efficient use**
+ **Including quantity control**

PROFESSIONAL PRODUCTION DATABASE

+ **Part, customer, plate, order and nesting plan management**
+ **Search criteria based identification of required objects**
+ **Multi User Support**
+ **Based on Microsoft SQL Server**



EDITION

OmniWin Enhanced

In addition to the OmniWin Standard Edition, two other editions are available. Both extend the basic version with different functionalities.

With OmniWin Enhanced you get Autonest, the program for automatic nesting, as well as the ability to enter, manage and track orders.

OmniWin Enhanced gives you the best results with short computing times.

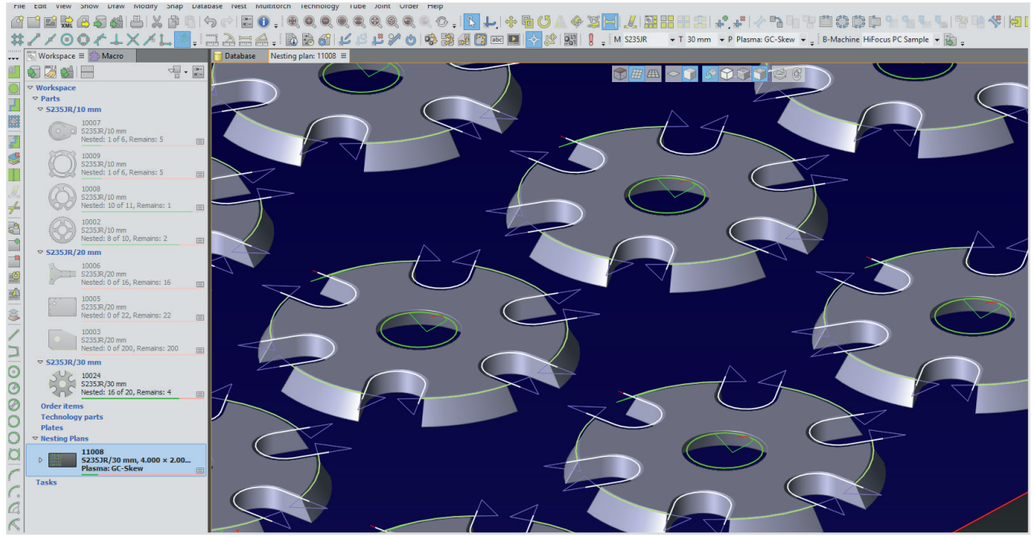
EDITION

OmniWin Professional

The OmniWin Professional edition convinces with numerous technology functions, such as bridges, also crossed and rounded, joints, economy cuts and corner loops.

Multiple and single bridges as well as residual grid cuts, pre-drawn gates or any residual slab geometries, not only for rectangular slabs, are included in the range of functions.

A special application of the edition is stone mould cutting.



OPTION PACKAGE

Bevel

Our Option Bevel adds support for fully integrated nesting of bevelled parts to your OmniWin Edition. You nest, create reports and production data, manage and store parts, plates and plans in the database.

OmniWin uses the same technological databases and post processors that are used by the stand-alone application OmniBevel. The integrated time calculation supports you by planning the cutting for bevel nesting plans.

OPTION PACKAGE

STEP

With the product option STEP product option, 3D STEP files can be imported quickly and easily. Surface components, multi-body geometries and assemblies are supported.

STEP is a manufacturer-independent and standardized file exchange format. It is currently one of the most common formats for the transfer of CAD data worldwide and offers a high degree of flexibility.

OMNIWIN ENHANCED WITH AUTOMATIC NESTING & JOB FUNCTION

- **With Autonest, the program for automatic nesting**
- **Best results and short computing times**
- **Order entry and management including order tracking**

EXTENSIVE TECHNOLOGY FUNCTIONS IN OMNIWIN PROFESSIONAL

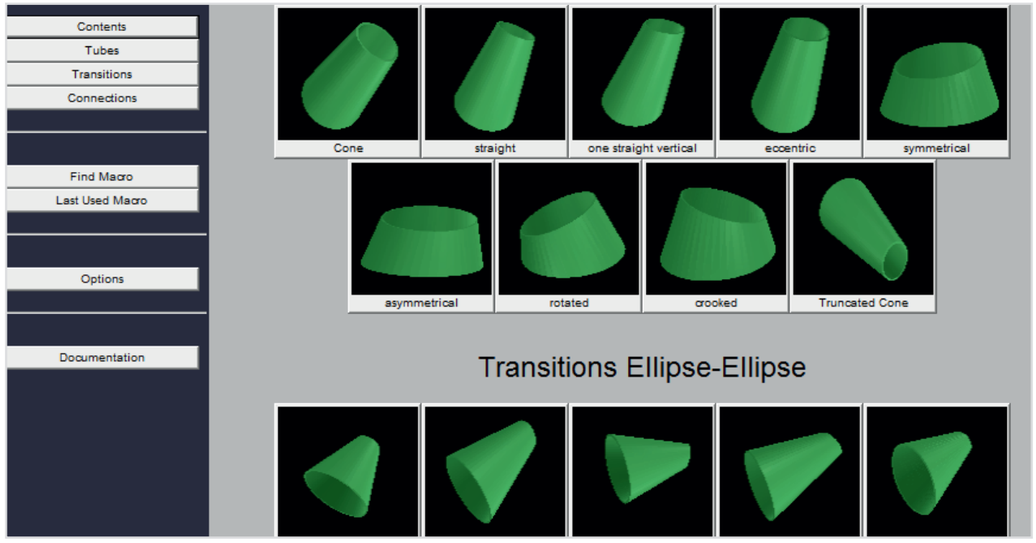
- **For bridges, stitches, loops, links, common cuts, corner loops, skeleton splitting, pre-piercing**
- **Plate management including plate and remnant plate definition and remnant plate cutting**
- **Stone Mold Cutting**

BEVEL PARTS AT THEIR BEST WITH THE BEVEL OPTION

- **Completely integrated nesting of bevel parts**
- **The integrated time calculation ensures that you can plan your bevel nesting plans**
- **Based on proven OmniBevel databases and post processing**

IMPORT STEP FILES QUICKLY AND EASILY

- **Import of flat 3D geometries from Step files**
- **Flat parts**
- **Multi-body geometries**
- **Assemblies**
- **Simple bevels**



OPTION PACKAGE

Unfold

With our option package Unfold, we offer a broad integrated palette of 3D geometries that are defined by parameter and finally are unfolded for 2D cutting.

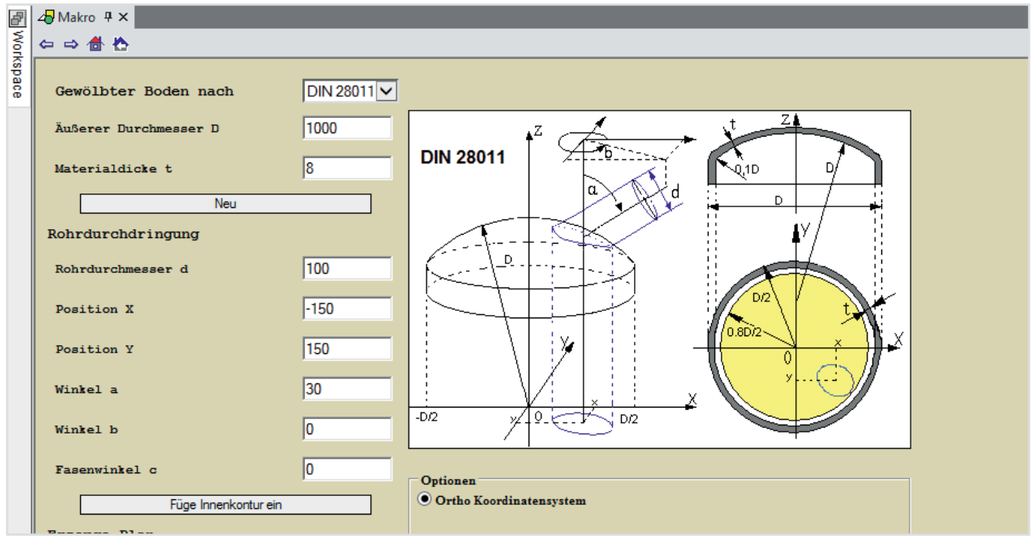
Multiple technological functions are available to adjust the output for further manipulation with bending or rolling machines.

OPTION PACKAGE

Drill

Import and produce all machine-supported drilling operations with the Option Package Drill. Select your drilling operation together with the tools and nest the parts onto a plate.

The parts with drill operations can be displayed and checked with the 3D visualization, integrated in the CAD system. The post processors with drilling support ensure the optimum NC programs.



OPTION PACKAGE

Boiler End

Option Package Boiler End enables the processing of dished ends. Cylindrical pipe penetrations are automatically calculated on formed dished heads for the proper pipe location and alignment. NC code is output with varying bevel properties so a consistent weld seam can be created for the size and angle of the pipe.

Boiler End was developed specifically for the Skew Rotator Infinity and designed for the requirements of the tank and apparatus construction. It uses the properties of the Skew Infinity to expand production facilities, in addition to the existing processing of plates, to dish ends.

Available in addition to option package Bevel

EXTENSIVE 3D-GEOMETRIES

- **Fully integrated unfolding and optimization of 3D shapes for 2D cutting and further manipulation**
- **Large library of common shapes for container and ducting industries**
- **Sorting of geometric forms by category and subcategory**

DRILLING HOLES WITH INTEGRATED POST PROCESSORS

- **Drill import**
- **Integrated drill tool database**
- **Draw drill points**
- **Holes, countersink, tapping, deep hole drilling, bore hole cutting**
- **Post processor support for drilling operations**

IDEAL SUPPORT FOR DISHED ENDS

- **DIN 28011 and DIN 28013**
- **Cutting round cylindrical penetrations with or without additional VDS Fase**
- **Marking of lines in the X / Y plane projected on the domed base or penetration projections of round cylinders to the ground**

	OMNIWIN 2022	Standard	Enhanced	Professional
CAD	CAD Part and Plate Creation	X	X	X
	3-D Visual Rendering	X	X	X
	Standard Shapes Library	X	X	X
	Text Conversion for Cut-outs or Marking	X	X	X
	CAD Import - DXF, DWG, IGES, DSTV, SolidWorks* Part (SLDPRT) and Assembly (SLDAMP), Autodesk Inventor *	X	X	X
	Read and Translate Administration Data	X	X	X
	Import Images bmp, jpg, png, tif file formats	X	X	X
	Import TRUNEST DXF as Nesting with Single Part identification	X	X	X
	Reverse Import CNC files to DXF	X	X	X
	Excel Import of Parts and Plates (Orders with Enhanced Edition only)			X
	Automatic Dimensioning of parts and plates	X	X	X
CAD and nesting	MS SQL Database for Parts, Nestings, Plates, Profiles and Machines	X	X	X
	Fast Reports® Creator	X	X	X
	Professional Designed Workspace	X	X	X
	Short Cut Keys	X	X	X
	Dimensioning	X	X	X
	Snap Modes	X	X	X
	Manipulator Tool for rotation, copy, move and mirror	X	X	X
Nesting	Process Database	X	X	X
	Messer Hole Technology supports True Hole® or Contour Cut	X	X	X
	Production Time Estimation	X	X	X
	Costing	X	X	X
	Automatic Lead-in/out with Customization	X	X	X
	Cut Plan Simulator	X	X	X
	Interactive nesting (Row and Column, Pattern Matrix) with Single or Multi-Torch	X	X	X
	Collision Avoidance	X	X	X
	Process Optimization	X	X	X
	Modify Part, Interior Profile or Marking Sequence	X	X	X
	Technology Parts	X	X	X
	Manual Crop Cut	X	X	X
	Automatic Nesting		X	X
	Stone Mold Cutting			X
	Stitch, Bridge, Common Cut, Corner Loops, Chain Cut, Automatic Corner Rounding			X
	Skeleton Cut Up			X
	Pre-Piercing and Pre-drilling (Option Drill required)			X
	Remnant Plate Creation with Auto Crop Cut			X
	Work Order Processing with Order Database		X	X
Options	Option Bevel - Bevel Part Creation	•	•	•
	Option STEP Import - Import of 3D STEP Files	•	•	•
	Option Unfold - Unfold 3D Industrial Fittings	•	•	•
	Option Boiler End (requires Option Bevel) - Dome Cutting	•	•	•
	Option Mill - 2.5D Milling Support for Pocket Milling, Through Hole Milling (US only)	•	•	•
	Option Drill - Drill support	•	•	•

* A SolidWorks license is required with installation on the same PC.

* An Autocad Inventor or viewer is required with installation on the same PC.

INDUSTRY 4.0 **WITH MESSERSOFT**

In Industry 4.0, production interlocks with the most modern information and communication technology. Messer machines and software from a single source ensure maximum utilization of existing resources.

Complete integration of your cutting machines

Our modular software portfolio integrates your cutting machines into your business and production processes in the best possible way and supports the key functions throughout the entire workflow.

A common entry into digitization is traditionally via work preparation with OmniWin and OmniBevel for CAD/CAM, nesting and bevel. Our solutions become holistic thanks to the OmniFab Suite as digital support for operators, production managers, process analysts, service technicians as and management. Messer machines and software thus guarantee the perfect introduction to digitalization..

OMNIWIN 2022 - SYSTEM REQUIREMENTS

Hardware requirements:

+ 4 GB RAM, 4 GB hard disk space, 2 GHz CPU
+ Minimum screen resolution 1280 x 960 px, recommended 1680 x 1050 px or more
+ Graphics processor with OpenGL 1.1 support or higher, without "shared memory"
+ USB port for connecting a local software protection dongle or network access to a license server

Supported operating systems:

+ Windows 7 32 bit* or 64 bit
+ Windows 8 32 bit* or 64 bit
+ Windows 10 32 bit* or 64 bit
+ Windows 11 64 bit

*** 32 bit systems support the installation mode "Network client" only.**

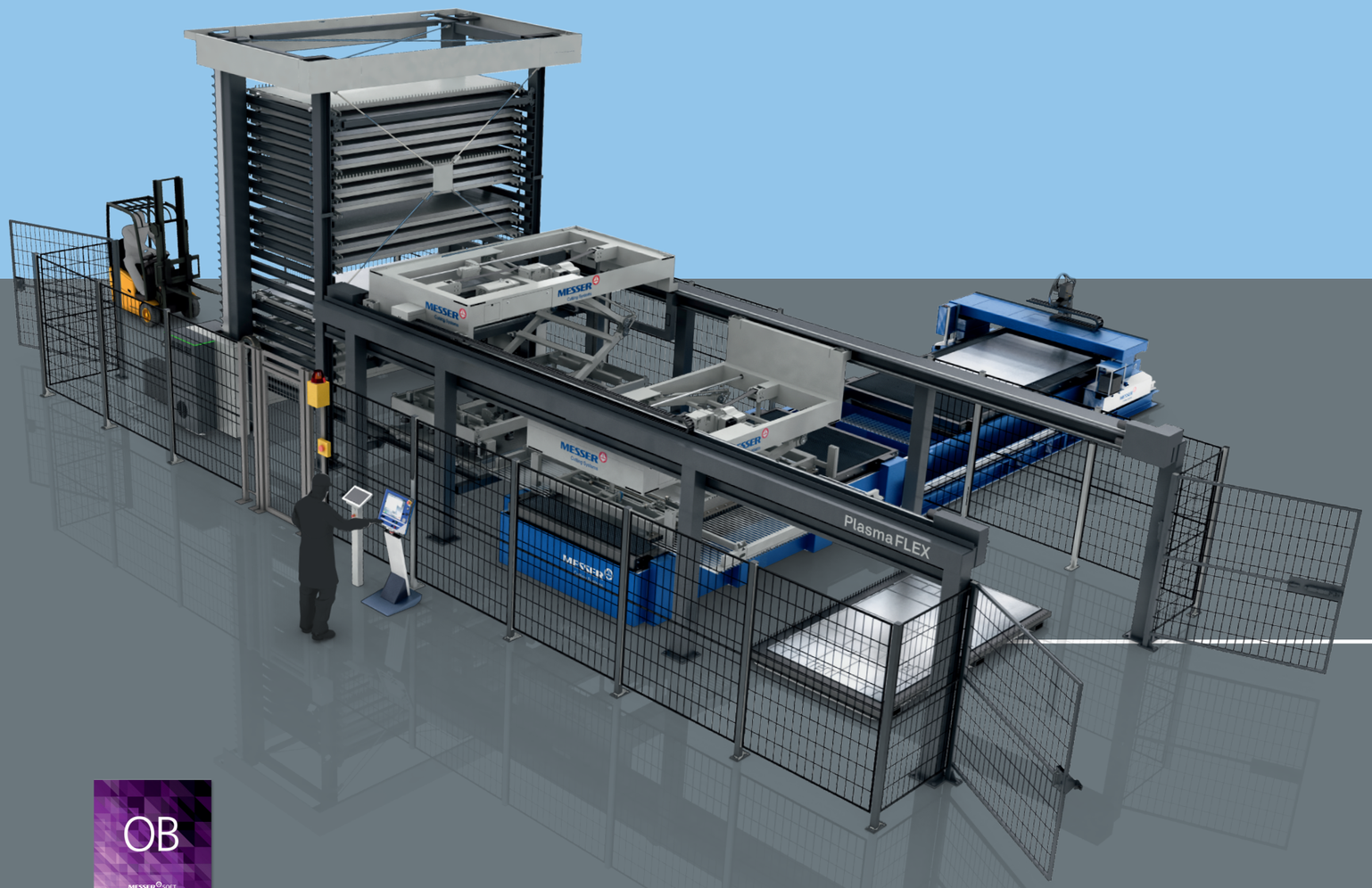
Software requirements:

+ Microsoft Internet Explorer Version 7 or higher
+ Microsoft .NET Framework 4.8
+ Microsoft Office Access Database Engine 2007
+ Microsoft Visual C++ 2015-2022 Redistributable (x86) (vc_redist.x86.exe)
+ Microsoft SQL Server 2017 Express LocalDB
+ Microsoft SQL Server 2012 Native Client

DIGITAL WORKFLOW

DIGITIZE YOUR PRODUCTION

The digital solutions perfectly complement the holistic range of products, automation, services and know-how.



ERP CONNECT

SALES QUOTES

JOB MANAGEMENT

MATERIAL FLOW

PRODUCTION DATA CAPTURE

MACHINE INSIGHT

OMNIWIN

Ideal for work preparation

The powerful, easy to use designing and nesting software that saves time, material and costs.
OmniWin is the ideal tool for work preparation in oxyfuel, plasma and laser cutting. It takes over all cutting tasks for order-based production with CNC-controlled cutting machines. The software is both effective and economical – for small productions as well as for just-in-time manufacturing with changing quantities in custom cutting operations.

OMNIBEVEL

Best-in-class technology for bevel cutting

OmniBevel is the leading software product for bevel cutting that ensures absolute dimensional accurate parts. The post-processor module with easy to use graphical user interface delivers optimal cutting results. It stands for straight cuts, cylindrical holes, exact bevel angles and enormous flexibility. Almost all possible technology parameters and operation details are adjustable.

OMNIFAB

Software Suite for your digital transformation

The OmniFab software suite integrates Messer Cutting Systems' mechanical engineering technology into business processes in a holistic and process oriented manner.

It provides relevant information for work preparation, production planning and plant management by connecting all systems. OmniFab also integrates material handling systems like loading/unloading stations, towers, material transportation devices and more – even on mobile devices.

CREATING SOLUTIONS
BEYOND MACHINES

PRODUCT
AUTOMATION
DIGITAL
SERVICES
KNOW-HOW

WHAT WE STAND FOR

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 since more than 120 years.

Messer Cutting Systems GmbH

Otto-Hahn-Straße 2–4 | 64823 Groß Umstadt
Germany

Tel. +49 6078 787-0
Fax +49 6078 787-150
Mail info@messer-cutting.com

messer-cutting.com

THE MESSER EXPERIENCE