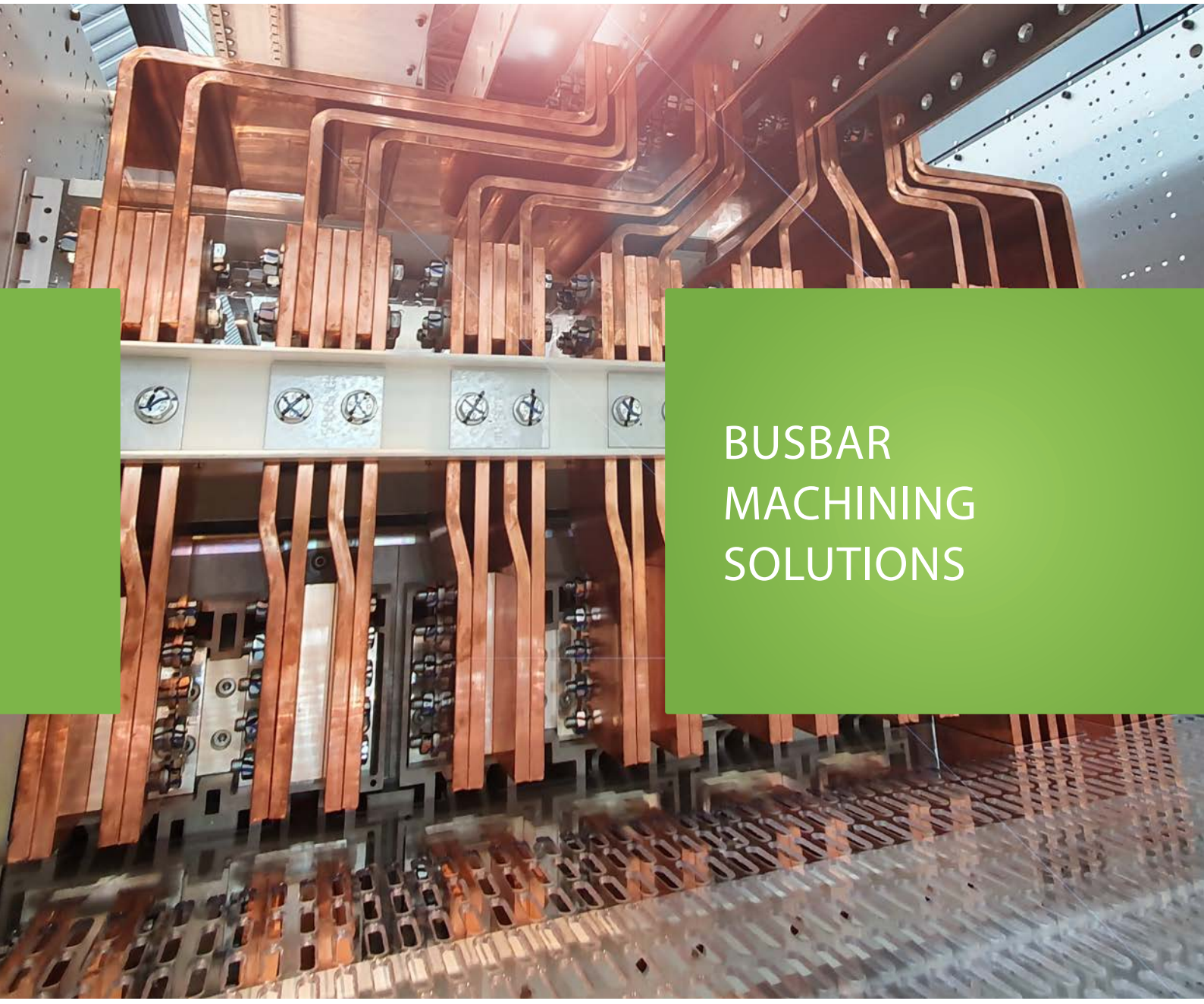
WWW.STIERLI-BIEGER.COM

Stierli-Bieger
CH-6210 SURSEE · SWITZERLAND



BUSBAR MACHINING SOLUTIONS

MACHINERY / TOOLS / PROGRAMMING / SOFTWARE

ENGLISH



POWERFUL BUSBAR BENDING MACHINES

The Stierli-Bieger company has a high level of specialization in busbar processing. Depending on customer requirements, we can offer a wide range of machines from simple bending solutions to state-of-the-art production bending machines.

Advanced tooling technologies allow an efficient and economical production concept for busbars.

We develop and manufacture bending solutions for busbars with energy-saving and modern servo drives with hybrid technology (energy on demand)

HYBRID Technology

A BENDING MACHINE WHICH CONVINCES 100%

The modern control system corresponds to a modern press brake control system. In addition, the machine has the function of automatic angle measurement, which can compensate for material-related tolerances and different springback values.

The large and intuitive color touch-screen panel with graphical display offers a wide range of control functions that allow fast programming and production of bent parts.



HIGHLIGHTS:

- With automatic angle correction
- Powerful machine control
- Import of DXF or 3D busbars
- Precise and reliable servo hydraulics

HYBRID Technology

Our flagship the 420 CNC-WP Hybrid meets all requirements in terms of precision, operation and programming.

STRONG TOOLING TECHNOLOGY

Tools specially developed for copper processing allow different bending operations to bend common busbars and bending geometries. The tools can be easily mounted on the machine.



AUTOMATIC ANGLE CORRECTION

With the use of measuring prisms it is possible to bend fully automatically.



BENDING WITH V- BENDING DIES

Cost-effective V-prisms in different sizes allow tight bends



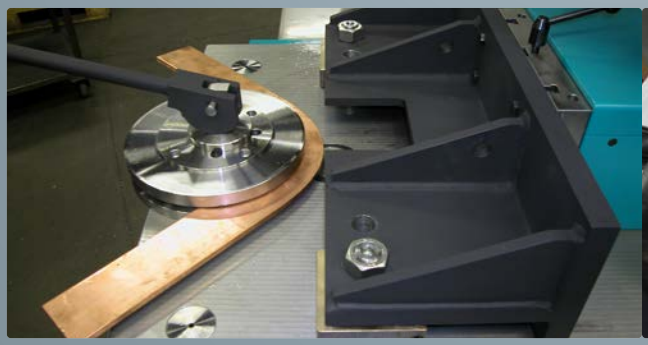
STEP FORMING TOOL NO.1

Two tight bends can be realized with the very flexible step bending tool. (offset bending)



STEP FORMING TOOL NO.2

Offset with defined axis distance for fast adjustment of the offset height.



EDGEWISE BENDING

With manual clamping or hydraulic clamping up to 150x10 mm.



TORSION / TWIST BENDING

Up to 100x10 mm. As a special tool can be twisted up to 200x10 or 3 rails together 120x10 mm.

High angle accuracy for high quality busbars due to active angle measurement



AUTOMATIC ANGLE CORRECTION FOR PRECISE BENDING

By using measuring prisms, the programmed bending angles are automatically bent and re-bent if necessary.

Depending on the size of the measuring prism, busbars up to 30mm thick can be bent quickly and precisely with this technology.

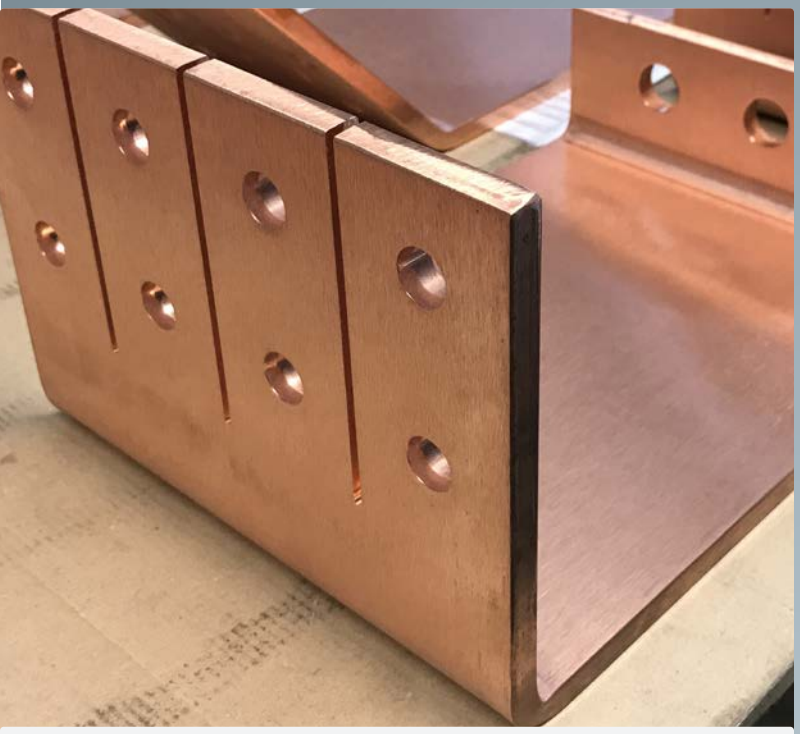


Graphical user interfaces allow easy programming of the busbars

OUR CONTROLS ARE MADE FOR OPERATORS

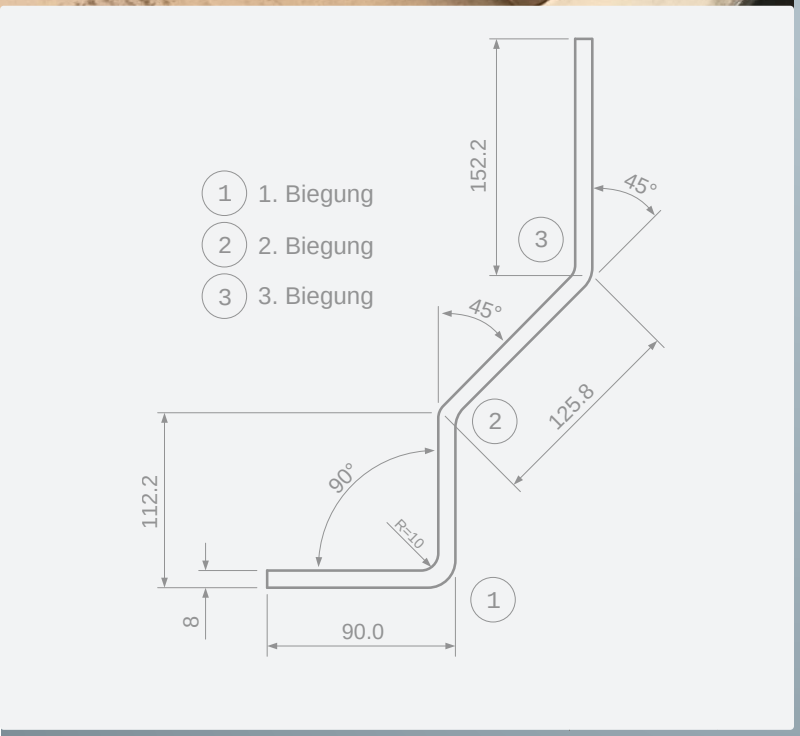
Clearly arranged and user-friendly design:
The CNC-WP Hybrid control has all the useful functionalities required for efficient busbar machining.

The workshop programming is done via a graphical display, which is very easy to use.



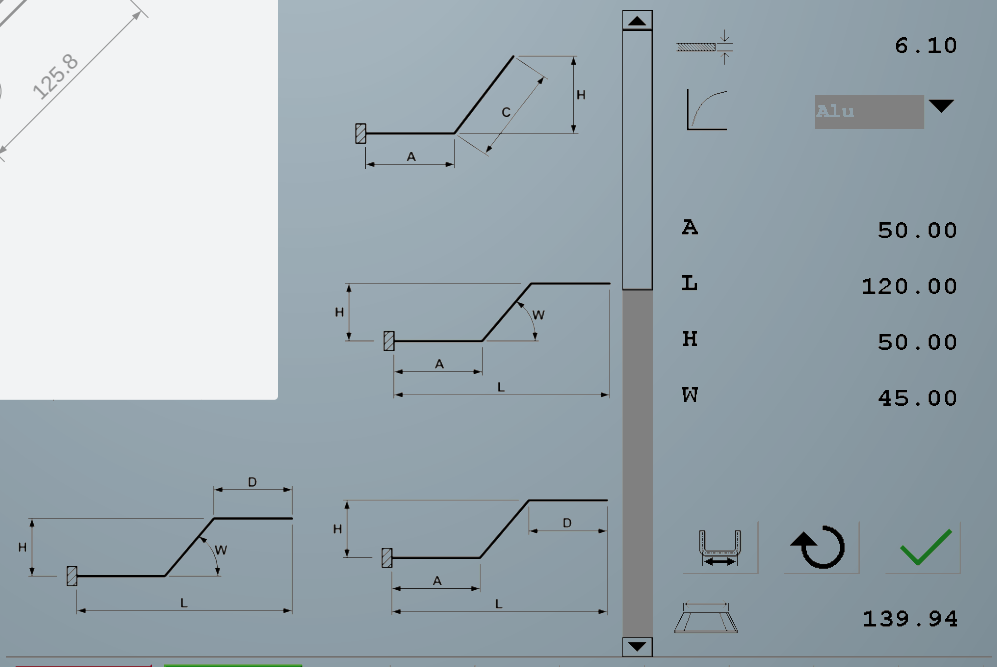
PROGRARMMING HAS NEVER BEEN SO EASY

Programming is done by entering lengths and angles. In addition, the intelligent shape library can be used for quick programming.



The stretched length and the stop positions of the individual bends are calculated automatically.

The material-specific values are stored in the technology table



Programming type 1:
Input of length and angle in tabular form

Programming mode 2:
Selection of the busbar via the library using predefined busbar geometries

POWERFUL COMBINATION WITH PUNCHING - CUTTING - BENDING

The CU-Profi punching machine from our partner BOSCHERT is the ideal complement to the STIERLI bending machine.

With our programming system BG-SOFT the bending program AND the punching program can be created with the same drawing. By using these two modern and robust production machines you will achieve an automated busbar processing on a high level.



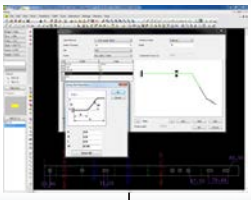
The CNC punching machine can be loaded with 3,4 or 6m bars. Punching, cutting, tapping and marking is done automatically.

SAVE TIME!
A PROGRAMMING SYSTEM FOR THE PUNCHING AND BENDING MACHINE

Our joint powerful programming system brings you production advantages.
The punching and bending program for both machines is created at the push of a button. The busbar can be created directly in the programming system in 2D or 3D mode. Or you can use your existing DXF drawings or 3D data.

Take advantage of the strengths of our modern programming system:

In the process, they let you achieve incredibly fast and secure workflows.



Programming system with:

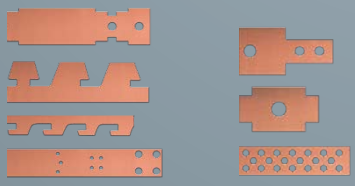
- **2D programming mode**
- **3D programming mode**
- **DXF - Import**
- **3D - Import**

BOSCHERT

Stierli-Bieger
CH-6210 SURSEE - SWITZERLAND

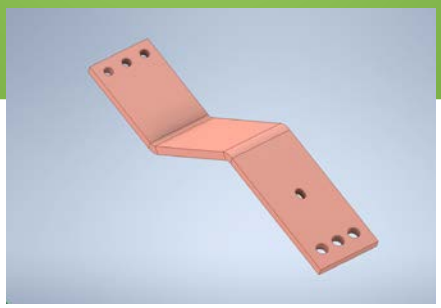


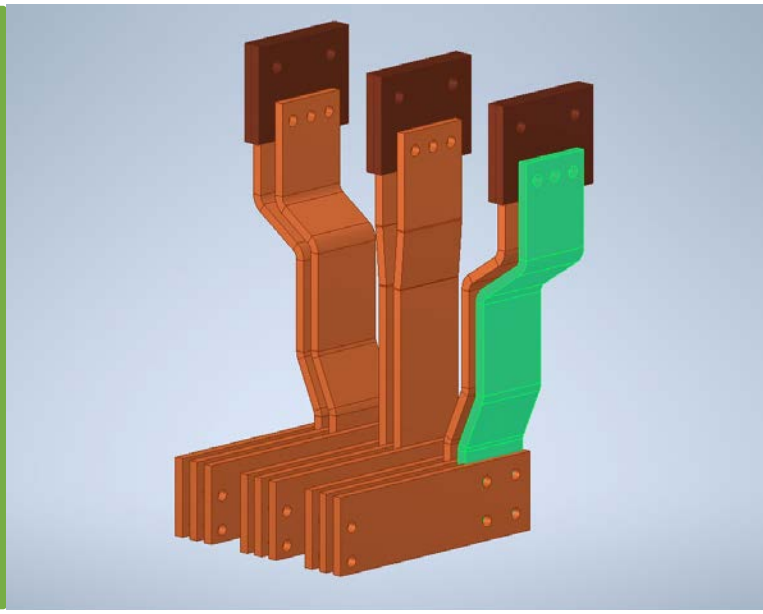




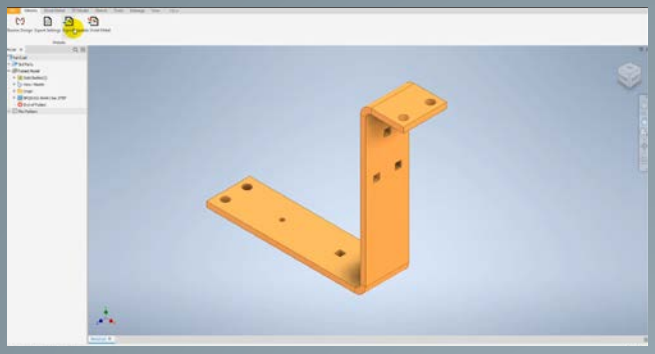


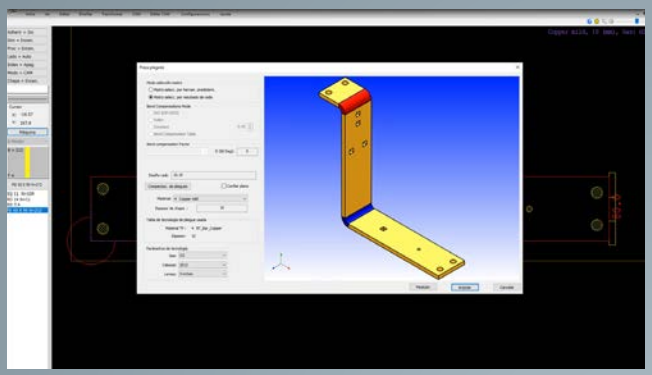
3D - DATA ENSURE AN ULTRA-FAST AND SECURE SAFE WORKFLOW





Programming in record time!
Increase your productivity and simplify the programming process with 3D busbars





3D BUSBARS

Use your existing 3D data to program your bending machine and punching machine. The busbar is unfolded with the material specific parameters, so that the unfolding with the correct stretched length, the bending lines as well as the punchings are created automatically.

We have a direct 3D interface that reads 3D data of various file types:

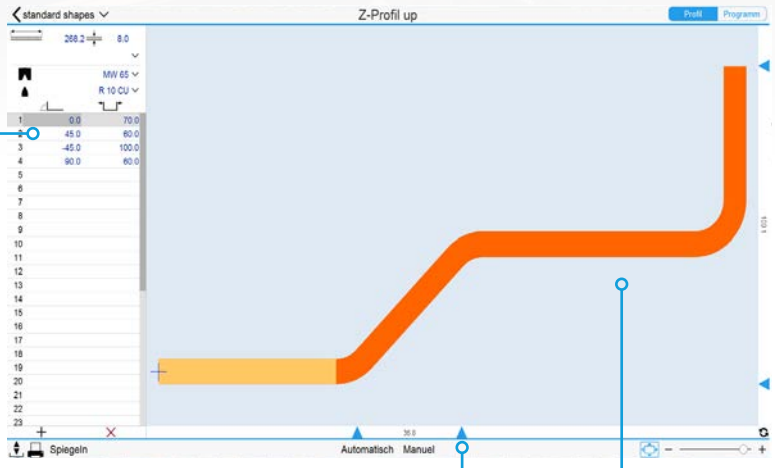
- Solid Works®
- Autodesk Inventor®
- PTC Pro/ENGINEER®
- SolidEdge®
- ePLAN 3D
- STEP - Files
  (for all CAD programs that can create a step file)

SECONDARY WORKSTATION BENDING SOFTWARE "BENDEDIT" WITH GREAT FEATURES

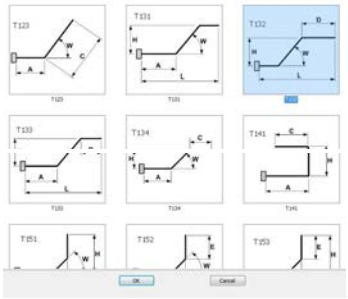
Efficiently create bending programs at the secondary workstation.

- Automatic calculation of the stretched length and stop positions (using the integrated material library and K-unfolding factors).
- Direct graphical and to-scale 1:1 live display of the programmed bent part.
- Display of bend sequences with step-by-step analysis function.
- Automatic bending sequence calculation. Individual bending sequences can be defined separately.

Enter the geometry:
Enter angles, leg lengths and sheet thickness in tabular form.
Optionally as internal or external dimensioning



Very helpful:
Alternatively use the busbar library with predefined shapes

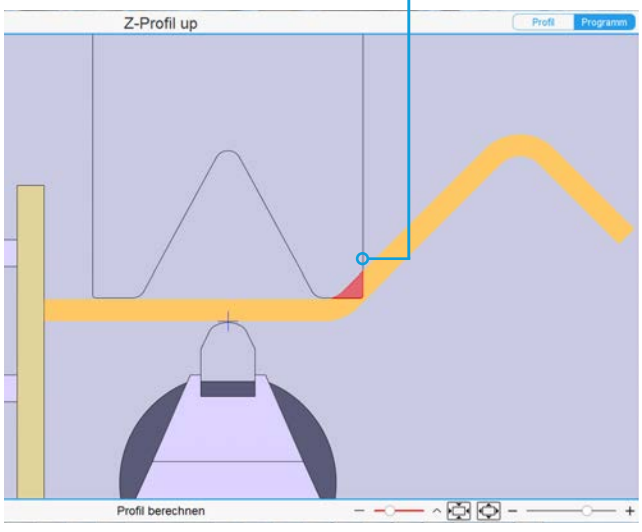


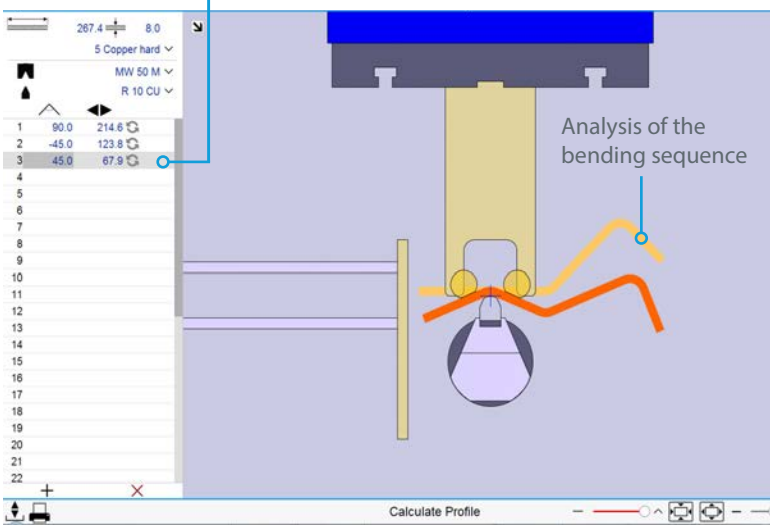
Checking of collision points, incl. zoom function. The collision points are colored red

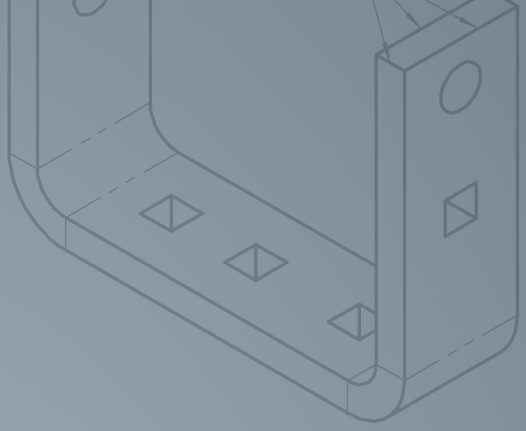
Automatic calculation of the bending program incl. unfolded length and stop positions

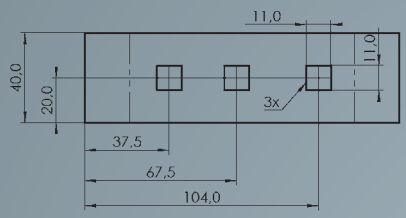
Practical measurement option with automatic snap points

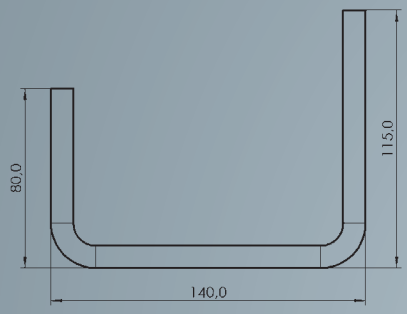
1:1 Display
True-to-scale display of geometry, bending radius radius and sheet thickness already during input











OUR CUSTOMERS APPRECIATE THE QUALITY AND LONG-TERM ACCURACY

The Stierli machines are known for the robsute design in continuous operation. Designed as production machines, they are in reliable operation for decades.

CUSTOMER SEGMENTS:



SWITCH GEAR CONSTRUCTION / TRANSFORMER

In classic switchgear construction, our customers appreciate the user-friendly control system, which greatly simplifies the bending of busbars.



PRODUCTION OF BUSBARS IN JOB ORDER PRODUCTION

Here, particular importance is attached to precise angles and leg lengths. Mark-free bending is standard. Fast programming is a must.



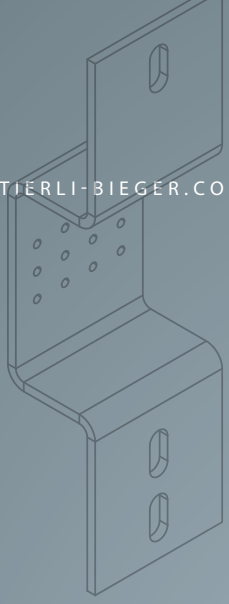
AUTOMOTIVE / E-MOBILITY / SPECIAL MACHINERY

With new and innovative bending solutions we are represented as a machine builder in the production of more complex busbars.



MARK-FREE BENDING

Various tool designs ensure bending of copper or aluminum busbars without or with minimal impressions.



EXPANDED KNOW-HOW FOR TOOLING TECHNOLOGIES

Over decades we have acquired an extended knowledge in the production of busbars. We are also happy to check your bending tasks.



BENDING FLEXIBLE BUSBARS

For the panel builder, it is a great help if the flexible busbars can be bent and the lengths and bending positions can also be calculated.



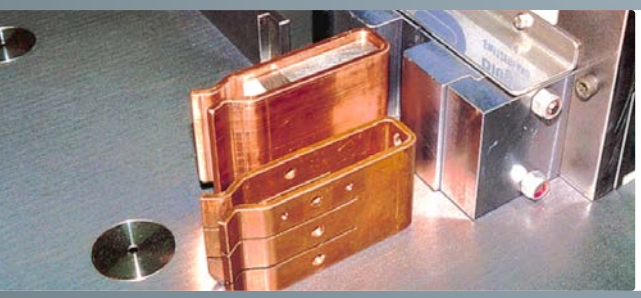
VERY LARGE OR THICK BUSBARS

Bending solutions are available for special busbars with e.g. 400x15 mm, or very thick busbars with 200x30 (aluminum).



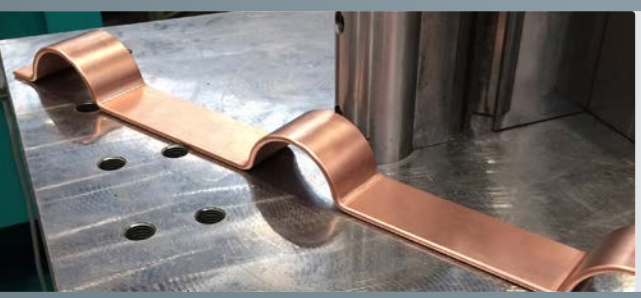
SPECIAL PROFILES FOR TRANSFORMER CONSTRUCTION

Special bending systems can also be used to produce copper profiles. On request also with clamping.



TOOLS FOR SERIAL PRODUCTION

In order to produce tools in large quantities with special geometries, we can offer you a suitable tooling solution.



FORMING TOOLS

In Kombination mit Umformwerkzeugen und Pressbiegen können auch schwierigere Biegegeometrien realisiert werden.



WE DRIVE INNOVATIONS

We have our own engineering department, which is constantly developing our innovations in copper processing. With the aim of manufacturing busbars more easily and efficiently.

CHALLENGE US!

You need a customized solution for your bending task? Contact us!

420 CNC in combination with automatic bending robots. Larger series can be produced almost without manpower.

Bending solution to twist 3 busbars together. This innovative bending system is manufactured for temperature reasons, and thus allows a very compact design of control cabinets.





Automatic bending prism to bend 30mm thick aluminum busbars with high angle accuracy without mark.

CHOOSE FROM TWO MACHINE TYPES / CONTROLS

With the two series, we cover all needs in switchgear construction for busbar production.

The busbar bending machines are available in two different series:

- **Series CNC Standard**
- **Series: CNC-WP Hybrid**

The main difference between the series is the control system and the hydraulic power unit. (Modern hybrid servo hydraulics or standard with opt. proportional hydraulics).

In addition to the CNC-WP Hybrid control, we offer a machine model with simplified control. (420 CNC Standard).

Bending optionally with standard V-bending die or optionally with measuring prism and automatic angle correction



420 CNC Standard
available with manual stop, or with controlled stop 1m, 2m or 3m.

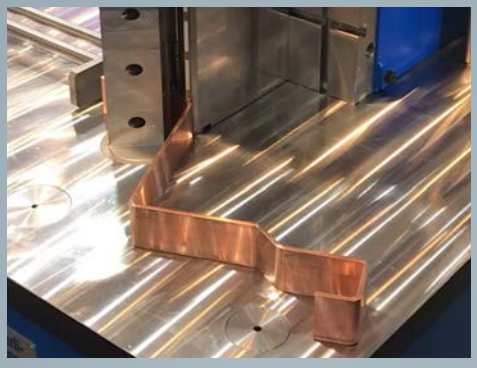
Photo:
With custom painting

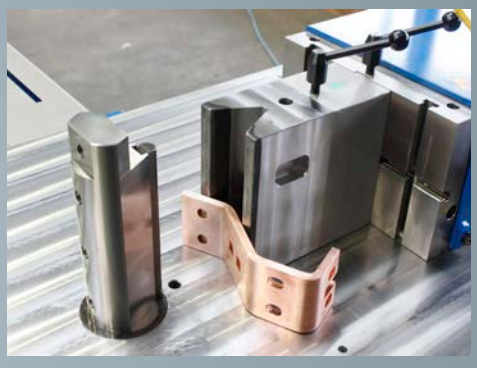
	120 CNC	220 CNC	220 CNC-WP HYBRID
Working force	120 kN - 12 to	220 kN - 22 to	220 kN - 22 to
Tool height	130 mm	130 mm (150mm) [1]	130 mm (150mm) [1]
Bending capacity CU	130 x 12 mm	130 x 16 mm	130 x 16 mm
Automatic angle correction	No	Yes (optional)	Yes (optional)
Controlled back gauge	1m, 2m, 3m	1m, 2m, 3m	1m, 2m, 3m
Hydraulic	Standard	Standard	Hybrid
Graphical programming	optional [2]	optional [2]	Yes

	420 CNC	420 CNC-WP HYBRID	820 CNC-WP HYBRID
Working force	420 kN - 42 to	420 kN - 42 to	820 kN - 82 to
Tool height	200 mm (opt.250)	200 mm (opt.250)	300 mm (opt.400)
Bending capacity CU	200 x 20 mm	200 x 20 mm	300 x 30 mm
Automatic angle correction	yes (optional)	yes (optional)	Yes (optional)
Controlled back gauge	1m, 2m, 3m	1m, 2m, 3m	1m, 2m, 3m
Hydraulic	Standard	Hybrid	Hybrid
Graphical programming	optional [2]	yes	yes

[1] With automatic measuring V-prism
[2] Graphical programming possible via offlne software Bend-Edit (page 11)

All machines can be operated with standard bending dies (V-prism) and optionally with measuring prism (with automatic angle correction).
Exception: 120 CNC







CONTACT US FOR YOUR NEW BUSBAR PROJECT

1 Send us your inquiry. Incl. busbar sections. We are also glad to check your drawings and submit you our offer

2 You are welcome to visit us. We demonstrate the machines in use, and discuss the necessary tool specification.

3 Alternatively to your visit, we are ready to make the presentation via **Online Teams Meeting**. We have prepared everything compactly and completely for you





Mechanical engineering since 1936:
Company headquarters and production site in Sursee.

TRUST IN A RELIABLE PARTNER

Stierli-Bieger AG develops and builds manual and CNC controlled busbar bending machines with automatic angle measurement and spring-back compensation. The first bending machine was produced in 1936 and has been continuously developed since then. Furthermore, horizontal bending machines, straightening machines, roll-out long stock for copper or aluminum bars, as well as special machines for busbar processing are manufactured.

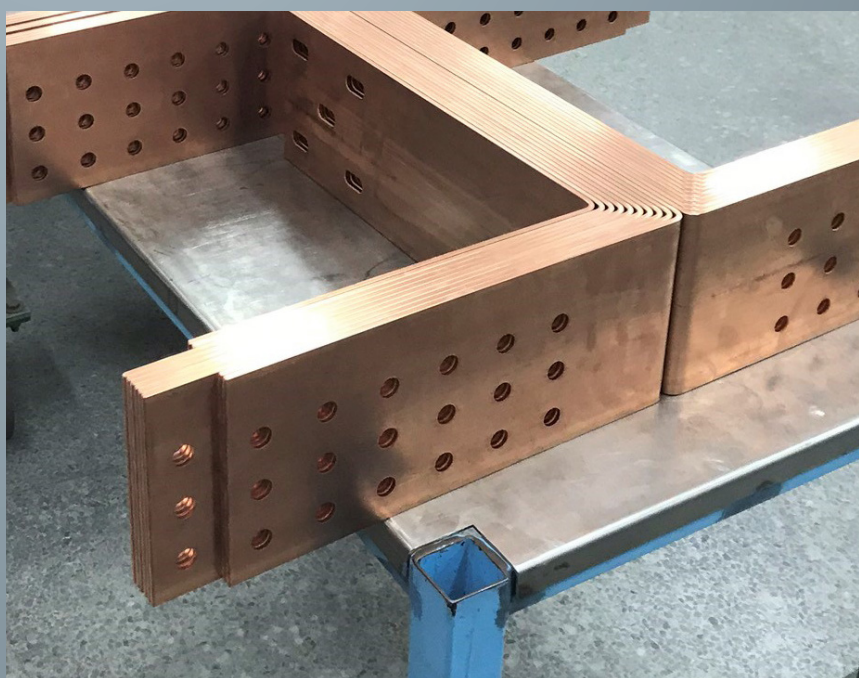
A large production area and modern design and manufacturing facilities are available to all employees.

We have our own development, design, manufacturing, assembly, marketing & sales and service departments and work closely with selected suppliers.
As a machine manufacturer with broad experience, we focus on quality & tradition. With our own engineering department we are able to realize your special projects with innovations.

The high degree of in-house production guarantees a high manufacturing quality.

We look forward to serving you with your next busbar project.

Thomas Stierli
CEO and owner 3rd generation





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