Thalmann Maschinenbau AG dates back to the one-man business founded by Otto Thalmann in 1948. The simple locksmith and metalworking business has expanded to become a major mechanical engineering company with trend-setting ideas in the sheet metal working sector; particularly so since the development and production of the world famous Thalmann bending machines in 1960. Since then, the company’s head office and production plant have been based in Frauenfeld, Switzerland.

Thanks to large land reserves and the foresight of the company’s founder, it was possible to extend the production and storage space to an area of 5500 m². State of the art equipment and production facilities as well as highly qualified manpower guarantee perfect quality work and delivery to deadline.

Particular attention is paid to the training of young people by offering regularly a variety of plant, machinery and mechanical engineering apprenticeships.

A Company with Tradition and Vision

First Thalmann Bending Machine «Standard» – 1960

Brothers Ruedi, Rolf and Peter Thalmann, owners of Thalmann Maschinenbau AG
The Solution to Modern Sheet Metal Working

Thalmann swing-folding technology
With the development of the first manually-operated, long length bending machine, in 1960, the swing-beam bending technology became Thalmann Maschinenbau AG’s area of expertise. Simple manually operated machines were later followed by hydraulically-driven and combined machines for cutting and bending sheet metal. In addition to a wide range of standard types of bending machines up to 18.2 m in length and with a bending capacity of a thickness of 3 mm steel (400 wN/mm²), our considerable experience has also enabled us to develop and manufacture countless special machines, tailor-made for customer requirements, for rational sheet metal working.

Easy handling
The machines are operated by modern NC and CNC control panels which are continually adapted to the latest technology. Many years of experience and collaboration with the same Swiss electronic company has resulted in user-friendly, software-tested control panels.
As a pioneer in the field of long length bending machine construction, Thalmann AG is currently known throughout the world for excellent quality and longevity of their machines. Being awarded with the Bavarian State Gold Medal for excellent workmanship in 1987 is evidence of this.
New products and the further development of existing products is a constant theme at Thalmann AG. Building on our years of experience, new machines will continue to be developed from the idea stage to the production stage. Also in future they will continue to simplify working practices in sheet metal-working plants and industries. Thalmann AG is the partner you need for competent and quick solutions to your problems.

Guaranteed Swiss quality
We guarantee the quality of our materials and workmanship with customer-friendly warranties. You can rely on our well-known after-sales and repair service even after the warranty period has expired.
Spare and replacement parts can be sent out at any time, or be installed by a mechanic, for all machines, no matter how old they are. Our employees at home and abroad are trained in all types of Thalmann machines and can carry out an efficient and comprehensive service.
Thalmann leads in health and safety records for bending machines. Even as far back as 1987 our safety standards were accredited with the GS identification number. With the introduction of the European Safety Standards all our machines are produced to conform to the latest standards and their safety has been attested with the CE safety mark.
Further efforts are also made to increase the safety of bending machines. All models can be equipped with the recently developed front laser barrier on the clamp beam.
Thalmann Maschinenbau AG is certified according to SN EN ISO 9001:2000 since 1997.
The Panel-Beating Machine – The ZR Design

The ZR model is a newly constructed, sturdy and fully hydraulic swing-folding machine with standard lengths of 3.2 m up to 12.0 m; it was developed especially for the sheet metal workshops. This model can be adapted to requirements with a variety of accessories. The machine is manufactured in a clean welded structure and painted with a two-part hammered finish silver. The flanges are painted in a bright yellow, coated with a two-component lacquer. All drive shaft bearings are made from top-quality bronze. All other bearings subject to wear are tempered and ground. On the ZR – Model, the clamp beam and the bending flange are driven over separate camshafts in order to achieve exact parallel courses of motion.

Technical Data

<table>
<thead>
<tr>
<th>Model</th>
<th>ZR 125</th>
<th>ZR 150</th>
<th>ZR 200</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Working Lengths</td>
<td>3.2 m / 4.2 m / 6.4 m / 8.2 m / 10.0 m / 12.0 m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard Throat Depth</td>
<td>1250 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. Bending Capacity</td>
<td>1.25 mm (18ga)</td>
<td>1.50 mm (16ga)</td>
<td>2.00 mm (14ga)</td>
</tr>
<tr>
<td>Bending Flange Width</td>
<td>15 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. Bending Angle</td>
<td>143°</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bending Speed</td>
<td>3.5 s for bending flange cycle of 143°</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bending Accuracy</td>
<td>± 0.5°</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Standard equipment
- Complete electrical and oil-hydraulic installation
- Safety equipment
- Integral leveling device
- Quick adjustment of clamp beam radius and angle position on each pedestal
- DS 3001 control panel
- Programmable back gauge
- Hydraulic system filled with required oil quantity
- Foot pedal operation of clamp beam and bending flange
- All-phase main switch
- Freely selectable clamping beam geometry curved (standard) or straight
- The machine needs only little maintenance work

Special accessories / special equipment
- Tapered backgauge
- Hydraulically-operated automatic cutter
- Dynamic crowning
- Bending flange width 10 mm + 10 mm additional track
- Variable back gauge for short profiles
High Standards and Long Service Life –
THAKO Models

The THAKO model, the Thalmann Company’s flagship folder, was primarily designed for ambitious facade and roof constructors as well for the industry sector – it combines decades of experience, development and engineering of long-length folders. The ingenious design of the THAKO meets virtually all customer requirements and allows for increasing requirements in terms of efficiency, flexibility, durability and safety.

Individual selection of beam geometry, gripper systems for material handling, roll-former units as well as an insertion depth of up to 2000 mm and machine lengths of up to 18.2 meters are just a few of the highlights offered by this model range.

The unique Thalmann control shaft principle guarantees unrivalled accuracy and quality throughout the machine’s entire life.

### Technical Data

<table>
<thead>
<tr>
<th>Model</th>
<th>THAKO 15</th>
<th>THAKO 20</th>
<th>THAKO 30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bending capacity steel 400 N/mm²</td>
<td>1.5 mm</td>
<td>2.0 mm</td>
<td>3.0 mm</td>
</tr>
<tr>
<td>Working lengths</td>
<td>3.2 m / 4.2 m / 6.2 m / 8.2 m / 10.0 m / 12.0 m / 14.0 m / 18.2 m</td>
<td>Other lengths on application</td>
<td></td>
</tr>
<tr>
<td>Throat depth</td>
<td>1 m, 1.30 m, 1.50 m and 2 m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bending apron width</td>
<td>15 mm + additional track 12 mm</td>
<td>Other configurations on request</td>
<td></td>
</tr>
<tr>
<td>Clamp beam opening</td>
<td>maximum 150 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cutting capacity steel 400 N/mm²</td>
<td>1.5 mm steel / 2.0 mm Al sheet or 3.0 mm steel / 4.0 mm Al sheet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electrical connection</td>
<td>3 x 400 V + N + E 50 Hz</td>
<td>Other voltages on request</td>
<td></td>
</tr>
</tbody>
</table>

- Easy regulation of the radius adjustment
- Maintenance-free long life linkage
- Variabel back gauge for short profiles
- Powerful automatic cutter with quick lever thickness adjustment
- Laser monitoring of the clampin range
High productivity through gripper handling

The roll-forming tool allows to realize totally new ideas

3 mm hydraulically-operated automatic cutter

The following parts are standard equipment:
- Complete electric and oil-hydraulic installation
- Hydraulic system filled with required oil quantity
- Integral leveling device
- Three-phase main switch
- Automatic cutter attached to bending flange
- Adjustable cutting head with sheet support roller
- Modular support table
- Box with spare parts and material for machine maintenance
- Safety equipment in accordance with CE standards
- Blue hammered finish paint

Special equipment
- Automatic cutter for 3 mm sheet metal (400 N/mm²)
- Dynamic crowning
- Roll-forming unit
- Pneumatic gripper-system for part handling
- Tapered backgauge
- Variable back gauge for short profiles
- Hydraulic radius adjustment through CNC controller
- High speed hydraulic for 30 % higher working speed
- Hardened and ground extra rail for clamp beam
- Individual selection of beam geometry
Now, the TD double benders also harness the advantages of double bending for large-scale operations of sheet metal, façade construction, and general bending with an economic yet top quality system – one bending flange above and one below enable bending from top down as well as from bottom up without having to rotate or turn the machined sheets. This facilitates the bending process and increases output. In this manner, the double benders are convincing with their precision, speed and flexibility as well as reliability and with a very wide spectrum of fabricable profiles.

### Technical Data

<table>
<thead>
<tr>
<th>Model</th>
<th>TD 125</th>
<th>TD 150</th>
<th>TD 200</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Working Lengths</td>
<td>3.2 m / 4.2 m / 6.4 m / 8.2 m / 10.0 m / 12.0 m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard Throat Depth</td>
<td>1250 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. Bending Capacity</td>
<td>1.25 mm (18ga)</td>
<td>1.50 mm (16ga)</td>
<td>2.00 mm (14ga)</td>
</tr>
<tr>
<td>Bending Flange Width</td>
<td>10 mm + 10 mm additional rail</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. Bending Angle</td>
<td>143°</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bending Speed</td>
<td>3 s for bending flange cycle of 143°</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bending Accuracy</td>
<td>± 0,5°</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Longitudinal slitter with double guide for the highest of precision**
- **Customised roll forming tool for special profiles**
- **Individual customised gripper fingers for changing – Stop fingers for very low supporting surfaces of the plate of 5 – 24 mm**
Maximum Precision

Maximum precision is taken care of by our unique Thalmann drive shaft technology. A mechanical control system synchronizes all mechanical axes using a massive steel shaft and maintains constant operating pressure over the entire bearing length. This results in extremely precise bending – in case of profiles with 60 and more bends for e.g., the deviation from one side to the other is 2 mm at the most, that is a max. of 0.04 mm per bend. The double bender achieves an accuracy of ± 0.5° for a max bending angle of up to 143° and requires only an astounding three seconds back and forth, thanks to the heavy duty hydraulics! Incidentally, outside the bending cycles an automatic unpressurised rotary operation helps save precious energy.

High Flexibility

Many slick features of the double bender facilitate manufacturing of profiles, which is not possible with other machines – the folding beams tilt to 15° directly increase clearance around the bent component and thus provide more flexibility for the portable bending solutions. A genuine competitive edge for the user. Thanks to the folding beams of 12 mm width with 8 mm removable extra rails, narrow Z bends are possible. The automatic gripper system can securely hold all types of sheets from the very narrow 24 mm width sheet to the commercial 1250 mm width coil. We provide special gripper fingers designed for individual profiles on request. In order that even special profiles can be securely gripped and quickly manufactured, the gripper fingers are designed so that changeover is easy and quick. With optional gauge fingers, close gauging of 5 mm can be achieved. A special profile flange support provides a lot of free space in the machine.

Options

Following are the options available for the TD model series:

- Longitudinal slitter with double guide for the highest of precision
- Customised roll forming tool for special profiles
- Individual customised gripper fingers for changing
- Stop fingers for very low supporting surfaces of the plate of 5 - 24 mm
- Conical back gauge in fully automatic operation
- Chrome steel spherical supporting table in the machine
- Individual, custom-tailored bending beam geometry
- Yet sturdier bending and clamping beams made of Hardox 400 1200 N/mm² (174KSI)
- Additional stand assembly for better bending stability, allowing for the sheet metal machine to be converted to an industrial machine without considerable capital expenditure

The clever beam geometry provides unrivalled flexibility
Laser monitoring of the clamping area for optimal accident prevention

www.thalmann-ag.ch
Synchronous force distribution

15° inclined, offset folding beams

Control shaft technology

Automatic gripper system
TC-300 Double Bender – the Bending Machine with Two Bending Flanges

Sophisticated profiles in façade and roof construction often contain z-bends. On conventional bending machines such profiles must be repeatedly rotated and turned during the bending operation. With the double bender, such manual handling is a thing of the past. The sheet metal is held by grippers, which move the profile to its next position. Depending on requirements, the sheet metal is bent upwards or downwards according to the preset angle.

The bending flanges must exhibit high precision and an extremely accurate synchronous run in order to guarantee perfect dimensional and angle accuracy.

The machine has a modern and highly dynamic hydraulic drive system, enabling operation at high speeds, the bending flanges requiring less than 2 seconds to swivel out by 140 degrees. The speed can be automatically and infinitely reduced and adjusted to the metal profile lying outside the machine to avoid damage to the already bent profile. The recently developed DS 3000 controller with 15” touch screen is easy to use and operates with user-friendly software.

The TC-300 is available in lengths of 1.5 to 10 meters and inlaid depth up to 2000 mm, whereby its modular concept allows the construction of even longer machines. This model has a bending capacity of 3 mm for sheet steel (400 N/mm²) and 4 mm for aluminium (220 N/mm²) respectively.

- High operating speeds thanks to maximum stability
- New synchronization system for even more precise bending
- User-friendly CNC equipment to satisfy the highest expectations
MAGNUM – Unique Wedge Cut Technology.
Cutting and Bending up to 3 mm Sheet Thickness

In addition to the already convincing swing-folding technology from Thalmann AG, we are introducing exclusive wedge cutting technology. With the development of these special shears, damaged sections from the strip belong definitely to the past. This patented slitting system leaves neither scratches nor deformations.

A Thalmann exclusive
The Swing-folding Machine with swivel-mounted clamp beam, assembled with shear blade and radius bar. Thus it is possible to use the shear blades on all four knife edges.

The radius bar is available in stock and can be supplied also in a tempered version.

- Bending capacity: 3.0 mm sheet metal
- Shear capacity: up to 3.0 mm sheet metal (400 N/mm²)
- Working lengths: 3 m, 4 m, 5 m, 6 m, and 8 m
Competitive in Price and Performance – The QUIK Model

This low-priced panel-beating model offers all strengths and skills of Thalmann machine and is available in different versions. The standard model is equipped with hydraulic clamp beam and bending flange, manual cutter and the control panel DS 2500.

Torsion shafts guarantees parallel course of motions for the clamp beam and the bending flange. The integrated synchronization and alignment system allows a readjusting at anytime.

CNC graphic controller and programmable back gauge are just some of the options that can be supplied for the QUIK model.

- DS 2500 control panel with 8x bending program
- Torsion shafts for the clamp beam and the bending flange
- Solid BOSCH-Hydraulic system
- Sturdy steel construction
- Built in leveling mounting
- 15 mm safety stop for clamp beam “lower” and end-to-end emergency-stop toe board

**Special accessories / special equipment**
- DS 3001 CNC graphic controller
- Programmable motorized back gauge
- Variable back gauge for short profiles
- Manual back gauge with LED display
- Hydraulically-operated automatic cutter instead of the manual cutter
- Bending flange width 10 mm + 10 mm additional track
- Laser monitoring of the clamping range

**Technical Data**

<table>
<thead>
<tr>
<th></th>
<th>Working length</th>
<th>Throat depth</th>
<th>Bending flange width</th>
<th>Maximum bending capacity</th>
<th>Cutting capacity manual cutter</th>
<th>External measurements with 4 m working length</th>
<th>External measurements with 6 m working length</th>
<th>Electrical connection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4 m and 6 m</td>
<td>1000 mm</td>
<td>20 mm, other configurations on request</td>
<td>1 mm Steel (400 N/mm²) / 1.5 mm Al sheet</td>
<td>1 mm Steel (400 N/mm²) / 1.5 mm Al sheet</td>
<td>5.0 x 1.5 x 1.4 m / weight 1600 kg</td>
<td>6.6 x 1.5 x 1.4 m / weight 2100 kg</td>
<td>3 x 400 V + N + E / 3.0 kW</td>
</tr>
</tbody>
</table>

www.thalmann-ag.ch
User Friendly and Versatile – The Thalmann Controllers

The DS 2500 controller – simply and clear for QUIK, ZR, THAKO and MAGNUM models
- 8-times bending program
- Manual and automatic operating mode
- Preset of clamp beam opening and lower
- Diagnostic program
- Nominal value and actual value display

The DS 3001 grafic controller with touchscreen – versatile and easy to use
The 3-axis CNC controller manages: type and thickness of materials, flat projection, depth stop, bend angle, opening and lowering of the upper beam as well as the angle correction data and clamping pressure values. The nominal and actual values of each profile can be programmed and read on the computer screen.
- CNC controller with Windows XP Professional operating system
- 15" TFT touchscreen with graphic navigation and 3D visualization
- Easy and user friendly programming and administration
- Manual and automatic operating mode
- Automatic axis displacement for cutting and bending
- Anti-collision and simulation program
- Archive with over 10’000 profile memory
- Total and order-related time recording
- Service and diagnostic program
- USB port and 2GB memory stick
- Pentium 4 Processor with SSD solid state drive
- Stand-alone software for external PC or laptop programming
- Software updates with no hardware replacement
- The control is even operable with working gloves

The DS 3000 controller for our double folder models
The newly-developed CNC control with 15-inch touchscreen colour display and user-friendly software offers a great ease of use. The bending programs can be written either on the machine, or at the remote programming station. The 7-axis CNC controller manages the upper beam, upper and lower bending beam, lower and upper folding beam displacement, the radius adjustment as well as the depth stop.
- Profile catalog with list of categories
- Manual, automatic and simulation operation
- Collision program
- Computer functions
- Variable speeds
- Time recording
- 3D visualization of profiles
- Service and diagnostic program
- Large tool catalog
- High performance-PC with Windows XP Professional operating system
- Software updates with no hardware replacement
- Stand-alone software for external PC or laptop programming
- Network-compatible
- Operating logs and much more
The idea
Have you ever had this irritating experience? You receive the drawing of a finished part from a client only to find that you still have to enter all the dimensions again into the control! Or perhaps you have made a sketch showing the key dimensions on the construction site and wish to generate a bending program quickly and easily on that basis?

To make your work easier, we have created the DXF-File-Import on the control and "CAM" – Computer Aided Manufacturing. The first system enables you to read almost all finished component drawings available in electronic form into the control with just a few manual entries; with the second, you draw your finished component on the screen by inputting a small number of data items. This data is then translated into a bending program.

In other words:
- you create a bending program from the CAD drawing of the final contour,
- you generate a finished component drawing directly on the screen and go on to translate this drawing into a bending program.

For this translation operation, you can choose whether the control is to “automatically” offer you a series of proposed solutions or whether you wish to determine the sequence of bending steps yourself. We describe this as the “manual” procedure.

The basic features of this new software are presented to you on the following pages.
Milestones of the Thalmann Maschinenbau AG

• 1948 Establishment of the company by Otto Thalmann †
• 1961 Patenting of the first long bending machine for the sheet metal forming business
• 1962 Market entrance in Austria and Germany
• 1965 Market entrance in Scandinavian market
• 1973 First deliveries to Australia
• 1974 Establishment of the Thalmann Konstruktionen AG
• 1978 Introduction to the market of the successful and strongest product line THAKO for 2-3 mm sheet metal
• 1981 Introduction to market of the product line PICO up to 1.5 mm sheet metal
• 1987 Receipt of the Bavarian State award (gold medal) for outstanding handcraft achievements relating to the THAKO 30 - 6.2 m
• 1987 Assignment of the GS label for industrial safety
• 1990 Introduction of the riser model QUIK on the market
• 1991 Name change to Thalmann Maschinenbau AG headquartered in Frauenfeld
• 1994 Handover of the company to Otto Thalmann’s four sons Peter, Rolf, Ruedi and Kurt
• 1994 Introduction to market of the MAGNUM model with world exclusive wedge cut technology
• 1995 CE-certified Machine delivered for the first time
• 1996 First steps in the Asian markets
• 1997 Certification according to SN EN ISO 9001:2000
• 1998 Delivery of the world-longest folding machine of 18.2 m
• 1999 Establishment and participation in the OMK GmbH company for the production of luggage scanners
• 2003 Delivery of the first Double Bender TC-300
• 2006 Expansion in the USA/CAN market
• 2007 Introduction to the market of the ZR product line as replacement for the PICO series
• 2009 Facelift ZR-Model
• 2009 New control software with CAM and DXF Import
• 2010 Introduction of the TD model into the market
• 2011 Introduction of the TD 125 double folder basic model