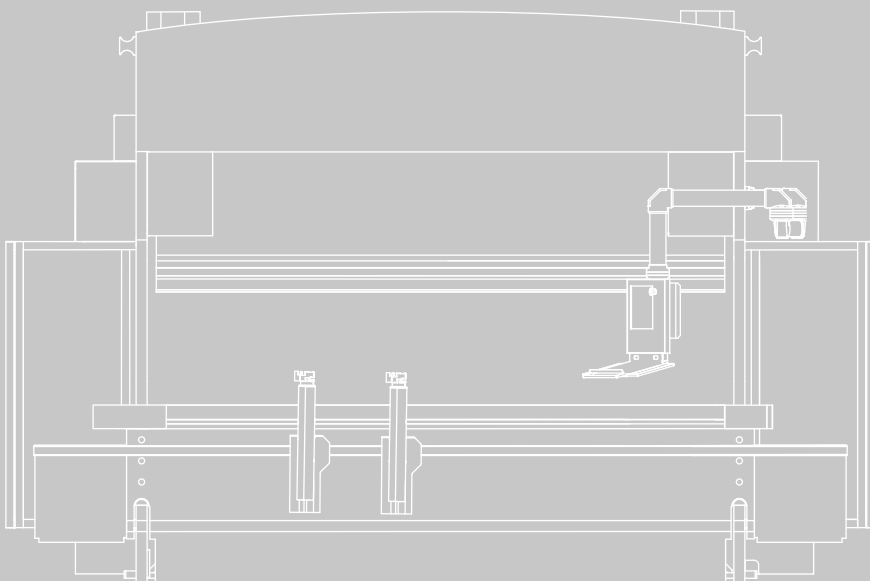




unique in bending

Hämmerle 3P

The industry standard for the very highest repetition accuracy and precision in bending



Hämmerle 3P – unique, flexible, established

Whoever sets the standard controls the market! The Hämmerle 3P pressbrake is the industry standard recognized worldwide when it comes to angle precision. The high-precision 3-point bending technology ensures this, along with the hydraulic cushion that distributes the bending force evenly along the entire length.

Unique

Repetition accuracy and precision are the crucial properties of a pressbrake. The Hämmerle 3P is unique with respect to these points and thus guarantees perfect reliability and maximum revenue.

Flexible

The Hämmerle 3P offers the highest degree of flexibility with respect to numerous factors such as tool selection, angle setting, bending process, and the type of bending operation. This introduces new and expanded possibilities for the construction of parts and components.

Established

The Hämmerle 3P is **the** pressbrake. It sets the standards by which others orient themselves. It is also a pioneer for new trend-setting technologies that will be used in future Bystronic product series.

One-button

Perfect bending results are achieved at the touch of a single button, regardless of the operator's previous knowledge. This increases the efficiency of the machine and boosts revenue.



The industry standard

Technology that inspires

For example, the high-precision wedge system for setting the bottom tool depth up to a precision of two thousandths of a millimeter. Or the backgauge, that guarantees large free workspace and provides for dynamics, force, and precision.

Technology that provides reliability

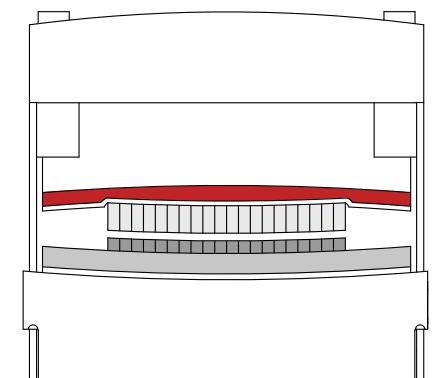
Fluctuations in the quality characteristics of the material have virtually no effect on the high-precision bending results that are achieved with the 3-point bending system.

Ingenious hydraulic cushion

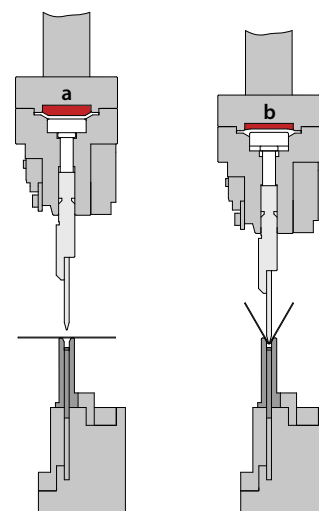
If the cushion were too soft, it would push through; if it were too hard, the effect would be lost. The operating principle of the Hämmerle 3P's hydraulic cushion is based on a fundamental law of physics and guarantees the uniform distribution of bending force along the entire bending length. The power of the cushion is specified automatically by the control depending on the material thickness, material qualities, and the dies used. Furthermore, the hydraulic cushion provides overload protection for the tools and for the entire system.

Innovation through experience

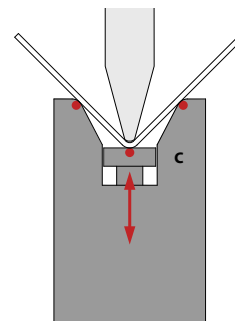
Just like its successful predecessors, the new Hämmerle 3P impresses with its large standard stroke, outstanding operator ergonomics, and slim tool system with variable angle adjustment.



The top tools supported in the hydraulic cushion follow the bending line of the bottom tools exactly.



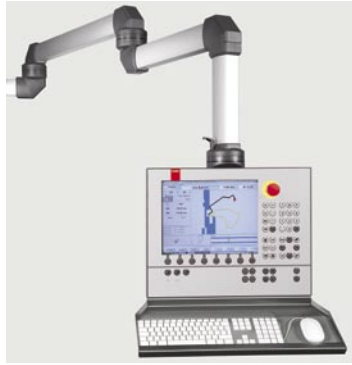
The working principle of 3-point bending
 a Hydraulic cushion in the unloaded state
 b Hydraulic cushion in the loaded state
 c Die with height-adjustable groove depth



Important features

Tonnage	1000–2500 kN
Bending lengths	2100–4100 mm
Control	MMC Bybend
Backgauge system	5–7 axes
Safety	CE and EMC certified
Entire model range in overfloor construction	

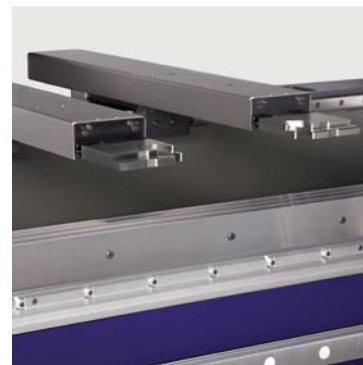
Important components



Bystronic control with MMC Bybend software

The Hämmelerle 3P has Bystronic's own control; with its convenient terminal, the machine is easy and quick to operate.

The MMC software Bybend assists the user with easy-to-operate 2D/3D programming and an automatic bending sequence calculation, as well as an extensive and continually expandable database. The database contains a multitude of part, material, and tool data, as well as bending technological data. The individual bending processes are displayed graphically with all manipulation instructions. The computer keyboard and mouse offer the operator maximum flexibility for programming.



Backgauge system

The backgauge is extremely dynamic, powerful, and precise. This is due especially to its lightweight construction, which means that only small masses must be moved. It runs very quietly and thus makes working on the Hämmelerle 3P more comfortable. Thanks to backgauge fingers that can be positioned individually, even conical parts can be produced easily and comfortably.



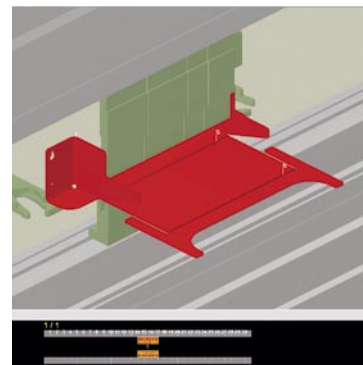
Hydraulic sliding table and bottom tool holder with wedge adjustment

Within a bending sequence, with the help of the hydraulic sliding table, hemming operations can be performed without a tool change. This applies for sheet metal up to three millimeters thick.



Safety equipment

In order to offer the machine operator the greatest possible safety, the Hämmelerle 3P is equipped with laser protection on the front and a light curtain on the rear.



Bysoft CAD/CAM software

Bysoft is the Bystronic program package for all cutting and bending processes and the pure implementation of operational practice at the software level. It is user-friendly, plausible, easy to learn, and powerful at the same time. Bysoft allows quick programming and assists the user with customized functions and an ideal system structure that is consistent across all software modules.



Hydraulic tool clamping

The hydraulic tool and die clamping with automatic centering device guarantees the shortest setup times. The universally distributed tool system offers total flexibility with respect to the bending length. This way, parts with multiple sides with different bending lengths can be produced easily at different stations.



Workpiece supports

The workpiece supports can be adjusted manually quickly and easily in the R and Z directions. The parking options on both sides of the lower beam provide additional free space. The aluminum support brackets have T-slots, so that tipping and side stops can be attached without difficulties.



Dynamic bending aids (optional)

The dynamic bending aids assist the operator in processing of large and thin as well as thick and heavy sheet metal with very long shanks. They are programmed via the control, and their motions are completely synchronized with the actual bending process. Height adjustment in the form of the integrated H-axis assures easy operation.

The dynamic bending aids can be installed optionally on the operator or backgauge side. So that the rear bending aids can quickly be adjusted laterally, they are equipped with a motorized W-axis. If necessary, the operator-side bending aids can be extended and enlarged with an extension of the table width. The supports are equipped with synthetic brushes for material-friendly handling.

Expansion possibilities

- Robot interface
- Remote diagnosis
- Air-conditioning technology for various climatic conditions
- Dynamic bending aids on the operator or backgauge side
- Extension of table width for operator-side bending aids
- Parking spaces especially for bending aids
- Additional backgauge arm X and Z
- Additional control cabinet with foot switch
- LED high-performance workspace lighting
- Operator terminal with height adjustment
- CAM module Bybendpart within the Bysoft program package
- Large tool assortment
- Tool cabinet

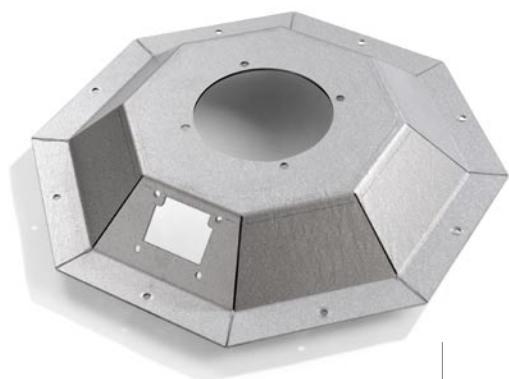
Service & Support

Bystronic's proven technology and extensive expertise produce systems that are extremely reliable. With its global network of specialized service and training experts and comprehensive spare parts inventories in the local markets, Bystronic guarantees that it will support what it sells. In addition to maintenance, spare parts delivery, and repair services, customers are also offered training programs as well as hardware, software, and operational support so that they are in a position to get the most from their machine investment.

Areas of application

Sheet thicknesses

Mild steel	0.5–12 mm
Stainless steel	0.5–10 mm
Aluminum	0.5–12 mm



Drive technology

Transmission cover
1.5 mm, mild steel



Motor vehicle manufacturing

Side plate
8 mm, mild steel



Appliance industry

Machine housing
2 mm, electroplated steel

Hämmerle 3-point pressbrakes are suitable wherever parts with straight bends have to be produced quickly and flexibly and with the greatest repetition accuracy and precision:

- Kitchen equipment and conveyor systems
- Precision parts
- Medical technology and hospital equipment
- Ventilation technology
- Lift and transport equipment
- Machine casings and housing construction
- Appliance, machine, and control cabinet industry
- Vehicle technology
- Prototype construction
- Textile machines
- General job order production

The extremely slim tool system of the Hämmerle 3P allows the efficient processing of extremely complex profiles and multi-sided bent parts.

Machine manufacturing

Machine cover
1.5 mm, stainless steel



Comparison results

Hämmerle 3P



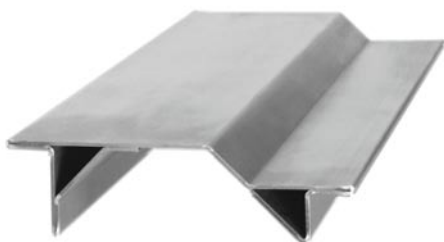
Thanks to the slim tool system and the possibility of hemming within the same bending sequence, the product can be manufactured as a one-piece complex bent part without functional limitations.

Conventional



3-part bending and welded construction with subsequent time-consuming finishing with respect to surface finish and straightness.

Hämmerle 3P



Thanks to the hemming unit and the slim tool system, it is possible to form complex design parts in sequence from a single blank size.

Conventional



This shaped part was bent in the conventional manner. The disadvantage of this production method is the separate spot welding and polishing.

Customer benefits

- Higher revenues and safety due to unique repetition accuracy and precision
- Fluctuations in quality, thickness, firmness, and hardness of the sheet metal have little effect on the bending results
- The greatest machine flexibility on the market thanks to the very slim tool system together with the hydraulic sliding table and the very large machine stroke, not to mention the maximum free workspace
- The rotation and turning of the material during the bending process is kept to a minimum
- More precise, quicker, lighter, and thus more cost-effective bending because the sheet metal handling is optimized with the help of the backgauge, the rear bending aids, and additional elements
- Seamless integration of cutting and bending processes
- Automatic protection of the tools and system by the hydraulic cushion; the setting of the perfect hydraulic cushion force is handled completely automatically based on the material and tool parameters
- Whoever produces using the industry standard produces professionally

This brochure may show parts that are not standard equipment, but are available as options. For the better visibility of machine details, some safety covers may have been opened or removed for these pictures. The right to make changes to dimensions, construction, and equipment is reserved. For technical data, see separate data sheet.

ISO-9001-certified

Bystronic is a worldwide active supplier of application-oriented systems and services for the laser and waterjet cutting processes, as well as bending: economical, high-performance, reliable.



Laser cutting
Laser cutting systems for the innovative processing of a wide variety of materials and geometries



Bending
3-point and air bending machines for high-precision working of sheet metals



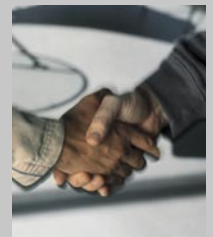
Waterjet cutting
Waterjet cutting systems for cutting metals, glass, synthetics, ceramic, and many other materials



Automation
High-performance handling and automation solutions from simple loading systems to fully automated laser production cell with integrated storage system



Software & Control
User-friendly programming and operation with requirement-oriented application programs and interfaces to CAD and ERP systems



Service & Support
Competence and customer proximity with after-sales support available worldwide: local contact persons, prompt delivery of spare parts, and professional training courses

Your contact

www.bystronic.com