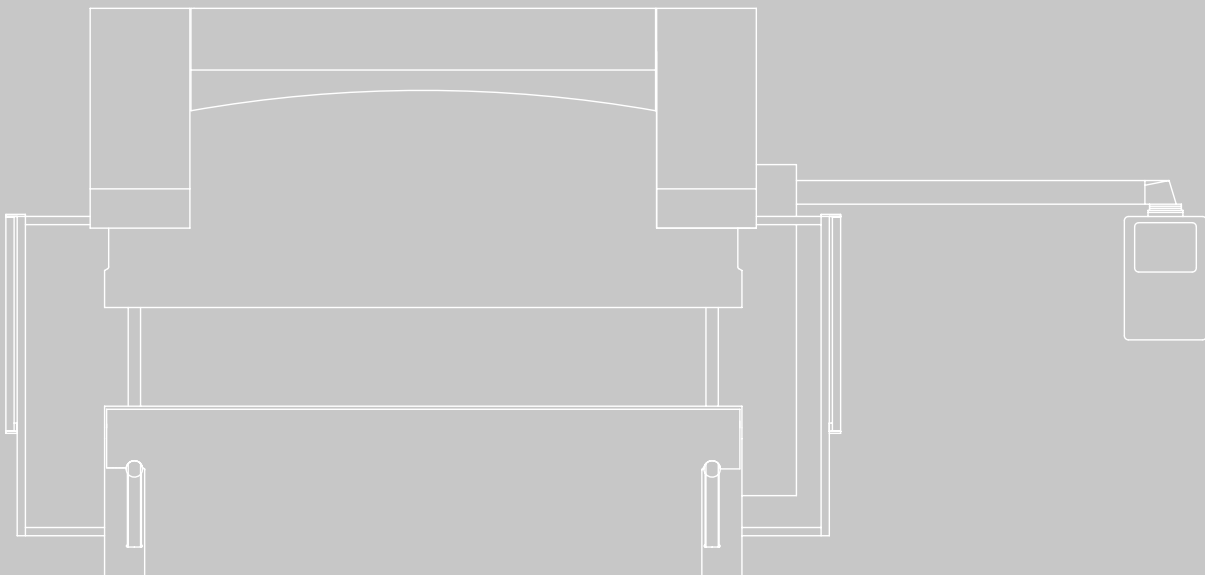


**Bystronic**

# unique in bending

## **Beyeler PR pressbrake**

The ultimate pressure reference in  
bending technology



# Beyeler pressbrake PR – flexible, secure process, economical

Thanks to its ultimate pressure reference (PR) bending technology with dynamic crowning, the Beyeler PR series pressbrake fulfils the highest demands for the production of sheet metal parts – and for the most varied of applications; both for light-gauge sheet metal and heavy-gauge sheets. The periphery is optimally designed for all application requirements. PR and IPC (Integrated Process Control) bending technologies with material thickness and springback measurement and monitoring are the state-of-the-art technologies at Beyeler.

The comprehensive CAD-CAM solution coupled with the Bystronic Bysoft 6.6 software for laser and waterjet cutting minimizes the programming work. In addition, the feasibility of any part can be clarified during the construction phase.

## Features

- Modern block hydraulics with proportional valve technology
- Equipping of the machine with various tool clamping arrangements for the upper tools is possible
- A range of table designs is available for holding the lower tools
- Preparation for tandem operation is possible
- Standardized strokes and increased open heights matched to the customer application



### Important features

Tonnage	600–3200 kN
Bending lengths	2050–4100 mm
Backgauge system	2–6 axes
The whole model range is designed for above-floor installation	
Safety: CE and EMC certified	





#### DNC ModEva control

The user-friendly 2D/3D graphics control is a network-compatible, 4-to-18-axes control. The visualization of the bending sequence and the collision considerations with information regarding the material handling, facilitate the ease of operation of the machine for the user.

#### PR pressure reference

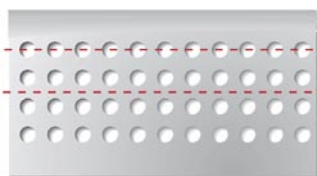
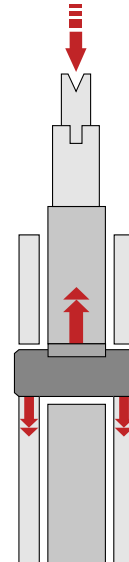
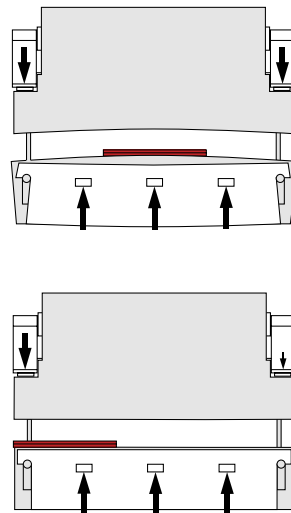
Side frame deflection compensation; the control takes place via pressure sensors, also for non-symmetrical load types.

## Important components



#### Hydraulic dynamic crowning

The position of the sheet is determined through precise pressure measurement. The necessary compensation of the deflection in the upper and lower beams is achieved using the short-stroke cylinder in the lower beam – automatically and independent of the length of the sheet and the material characteristics. This results in a guaranteed bend accuracy along the full length of the machine.



#### Automatic pressure control

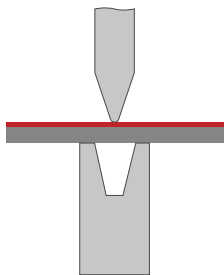
The pressure regulation during bending is carried out dynamically: If during a bending sequence the geometry of the part demands different bending forces, this adjustment is carried out automatically.

#### Tool protection

The load on the tool is continuously recorded by pressure sensors. A continuous comparison of the actual pressure and the maximum admissible force prevents overloading of the tool.

#### Temperature monitoring

Changes in the machine's construction caused by temperature changes are monitored using temperature sensors. The penetration of the upper tool into the lower tool is automatically corrected.



### Material thickness measurement

The material thickness is determined using high-precision pressure sensors. Variations in thickness are corrected through new calculation of the bottom dead centre during the bending process.

### Front workpiece tables

The workpiece tables are manually adjustable in the R and Z directions – with parking facilities on both sides of the lower beam. The base plates are equipped with T slots to permit the mounting of tipping and side stops.



### Backgauge systems

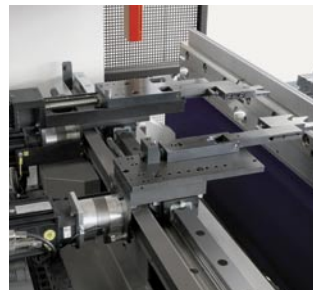
The pressbrakes can be equipped with backgauge systems for between 2 and 6 axes.



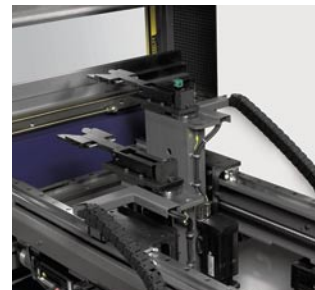
**Type X, R:**  
2 DNC-controlled axes. Both fingers can be manually adjusted laterally in the Z plane.



**Type X, R, Z1, Z2:**  
4 DNC-controlled axes.



**Type X, X1, R, Z1, Z2:**  
5 DNC-controlled axes with independent X1 movement of 150 mm.



**Type X1, X2, R1, R2, Z1, Z2:**  
6 DNC-controlled axes.

## Expansion possibilities

## Service & Support



### Safety facilities

Laser protection on both sides.

- IPC (Integrated Process Control) automatic sheet springback compensation and high-precision sheet thickness measurement
- DNC ModEva 12S
- DNC ModEva 15S flat screen
- Keyboard holder including keyboard for Cybelec control
- Bybendpart II application software
- H axis manual using hand wheel
- One pair of front-mounted bending aids; electro-hydraulic, including digital H axis
- Robot interface with two contact fingers and oil cooler

Systems and modules from Bystronic are cost-saving in support, maintenance and servicing. A comprehensive after-sales service ensures a long service life and if necessary guarantees on-site support. Contacts are available worldwide for hardware and software support and for professional training programs.

# Areas of application

## Sheet thickness

Mild steel	0.5–15 mm
Stainless steel	0.5–12 mm
Aluminium	0.5–25 mm

Beyeler pressbrakes are in use in the following market segments:

- General jobbing shop production
- Steel construction (door and window frames)
- Machine and system construction
- Electrical, electronics (electrical cabinets, housings)
- Power engineering
- Air conditioning systems
- Vehicle and railway carriage construction
- Systems for the retail trade
- Kitchen and hospital fixtures and fittings
- Office furniture (cabinets, drawers)

# Prefabricated parts



## Vehicle construction

Mild steel battery casing  
Thickness 2 mm

**Power engineering**  
Alloy bus bar S.S./Cu  
Thickness 6 mm



## Job order production

Stainless steel cover  
Thickness 0.8 mm

**Office equipment**

CD racks constructed using coated material  
Thickness 1 mm

**Kitchen equipment**

Galvanized steel sheet mould  
Thickness 1.5 mm

## Customer benefits

- Higher productivity thanks to Beyeler innovative bending technology
- Simple on-line, or alternatively off-line, programming for individual parts and series production
- Simulation and collision checking prior to bending
- User-friendly tools and tool-changing system
- Machine installation without special foundation requirements
- Bend angle monitoring without any mechanical systems and without intervention by the operator
- Increase in tool life through system monitoring
- High precision through automatically controlled, dynamic crowning
- Optimal price/performance ratio
- Support for hardware and software from a single source
- Linking with laser and waterjet cutting machines

This brochure may show parts that do not belong to the standard equipment but which are available as options. In order to permit the details of the machine to be more clearly identified, safety covers have in some cases been opened or removed. Changes to dimensions, construction and equipment are reserved. See the separate data sheet for the technical data.

Certified in accordance with ISO 9001

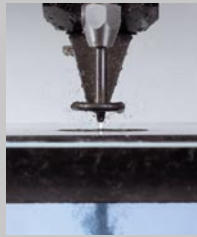
Bystronic is a worldwide active supplier of application-oriented systems and services for the laser and waterjet cutting processes, as well as bending: economical, high-performance, reliable.



**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



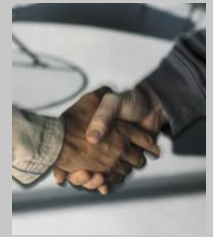
**Waterjet cutting**  
Waterjet cutting systems for cutting metals, glass, synthetics, ceramic, and many other materials



**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 applications 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](http://www.bystronic.com)