Further straightening machines

Torsion straightening machines
We supply for untwisting profiles and rails manual or automatically controlled torsion straightening machines.

Profile straightening machines
For straightening bar-shaped components, MAE offers horizontal straightening presses with either one or two rams. Measuring and linking systems are also available.

Special solutions
As a flexible medium-sized company, we are also able to economically manufacture tailor-made machines to suit your specific product requirements with our component modules.

Eitel and Müller straightening presses
Since 1991, we are the only company authorised to service the straightening presses of Müller-Weingarten AG, Esslingen and Eitel KG, Karlsruhe.

Automatic straightening
MAE fully automatic straightening machines are available in a variety of designs for various workpieces. Detailed information material is available on request.

Manual straightening presses

MAE
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A company of the GESCO group
Fast and reliable:
Manual straightening with MAE presses

As a medium-sized machine manufacturer, MAE concentrated on only a few market segments at an early stage. Precision presses and straightening machines are the most important of these core areas.

We have been developing and building manual and automatically controlled standard and special solutions for diverse workpieces for nearly 50 years.

With the widest and most innovative range of manual straightening presses in the world for forces ranging from 15 to 10,000 kN, we offer optimal solutions also for your application.

Straightening: Unwanted, but economical.
The straightening of deformed components is actually an unwanted procedure. Investments are therefore often not a consideration and attempts are made to reduce the distortion using simple devices or to eliminate the condition with expensive mechanical machining operations.

In the majority of cases, this is uneconomical. MAE straightening presses offer considerable rationalisation potential. Measuring and straightening in one setting ensures in conjunction with our straightening stroke control fast working also by less experienced persons.

Stroke control: Fast and precise
During the bending straightening process, the workpiece must be bent beyond the yield point. Under this condition of stress, the smallest increase in straightening force can already cause permanent deformation with a risk of over-straightening.

The main straightening parameter with all MAE straightening presses is therefore not force, but ram stroke. Free and precise downward stroke adjustment via the twist hand lever takes place with a reliable repeatability accuracy of 0.01 mm. This guarantees controlled and operator-independent straightening and prevents unnecessary workpiece loads.

MAE straightening presses can be used for an unusually broad spectrum of round and profiled workpieces.

Soft, hard or cast components can be safely processed thanks to the straightening stroke controller.

Change over takes place in seconds.

The MAE twist hand lever: Simply the best.
The twist hand lever is the central control element of all manual MAE straightening presses. It ensures highly ergonomic straightening according to specific requirements.

When the lever is moved downwards (1), the ram moves down until the set stroke stop is reached. For precise adjustment of this stop, the lever can also be twisted (2). The current position is indicated on an eye-level LED display.

Precision straightening results from the interaction of the residual workpiece curvature indicated on the dial gauge and the respectively corrected stop setting, working “according to instinct” is avoided.
Manual straightening presses

The S RH series is the classic in the range of MAE straightening presses. This new generation sets standards in terms of innovative control and energy-saving hydraulics.

In recent years, it was complemented by the affordable, pneumatically operated P-H RH series.

MAE offers a unique and wide range of powerful vertical action straightening presses.

S RH series: the bestseller in a new design.

S RH hydraulic straightening presses with sturdy C-frame are ideal for straightening-medium-sized and large workpieces.

We have redefined “manual straightening”. The current generation scores points with an extensive range of features, optimal operating convenience and the best possible straightening results with favorable cycle times.

An innovative hydraulic system with servomotor and variable-speed axial piston pumps replaces the conventional, loss susceptible valve control. This patented technology has been used successfully in our automatic straightening machines for years and offers numerous advantages:

- distinctly reduced energy consumption and maintenance;
- minimum heat development, no cooling required;
- very low noise emission;
- optimal positioning repeat accuracy (less than 0.01 mm).

We have refined our smooth operating and ergonomically designed twist hand lever. Selectable stroke infeed via lever control enables practical working within defined tolerances. Forward stroke depth for reaching the yield point and return stroke limitation can be predefined via pushbutton, enabling a rapid stroke sequence and reliable operation also by less experienced personnel.

The optionally available two-hand operation console or a downward speed limitable to 10 mm/s via a switch, make this press also suitable for general joining and forming.

P-H RH series: Small, but powerful.

These compact, pneumatically operated straightening presses are very affordable. Featuring stroke control with twist hand lever, these presses offer the same operating convenience and accuracy as the hydraulic presses.

| Press force | P-H RH | 15 – 160 kN | 400 – 20,000 kN |
| Drive       | pneumatic | hydraulic |
| Part length | 30 – 1,250 mm | 50 – 14,000 mm |
| Part cross-section | 3 – 60 mm | 8 – 500 mm |
**The straightening device**

The provision of straightening devices and accessories transforms a standard press into a tailor-made straightening machine that allows fast measurement and straightening in one setting.

**Basic straightening device**
The right and left straightening carriage form together with the front and rear connecting rod the basic straightening device, a flexible basis for straightening round and profiled components.

**Workpiece supports**
Interchangeable workpiece supports with centres or rollers are suitable for straightening centred and uncentred round components. Special flat supports also enable the straightening of profiled workpieces.

**Anvils**
A range of anvils are available for the optimal adaptation to various component geometries. These are either fixed on the press table, installed movable and radially extendable on the connecting rod or movable on the straightening carriage.

**Measuring devices**
The runout measuring devices are also tailored to suit specific applications. They can be permanently mounted on the press table or movable on the connecting rod, either alone or on an anvil. A further variant is fixed to the press breast plate.

**Crack detection system**
The crack detection system guarantees reliable detection of straightening cracks. An evaluation computer filters acoustic signals received by a piezo quartz receiver on the straightening hammer and is able to separate characteristic crack frequency spectrums from disturbing noise. The operator is informed about the crack via a visual or audible signal.

**Straightening controller OPUS 2**
With the OPUS 2, operating convenience and process reliability are further increased. Depending on the particular type of workpiece, several stroke depths can be stored and selected as required, e.g. for upright and flat profiles or for straightening shafts with shoulders.

The values of up to 16 measuring positions can be indicated in analogue and digital form on the coloured display, where curvature measuring devices are provided with incremental encoders.

Curvature and operating data can be transferred via an interface or printed out locally. In addition, the OPUS 2 can be provided with expansion software for semi-automatic straightening to relieve the operator.

**Motor drives**
When straightening large and heavy workpieces, electric motor drives rotate the component and move the basic straightening device.

The operator can control these drives via a central joystick at a precisely controllable speed.

**The options**

Convenient measurement and control technology, motor-driven actuators and drives or crack detector are examples of the additional equipment available. Contact us with your specific requirements.
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