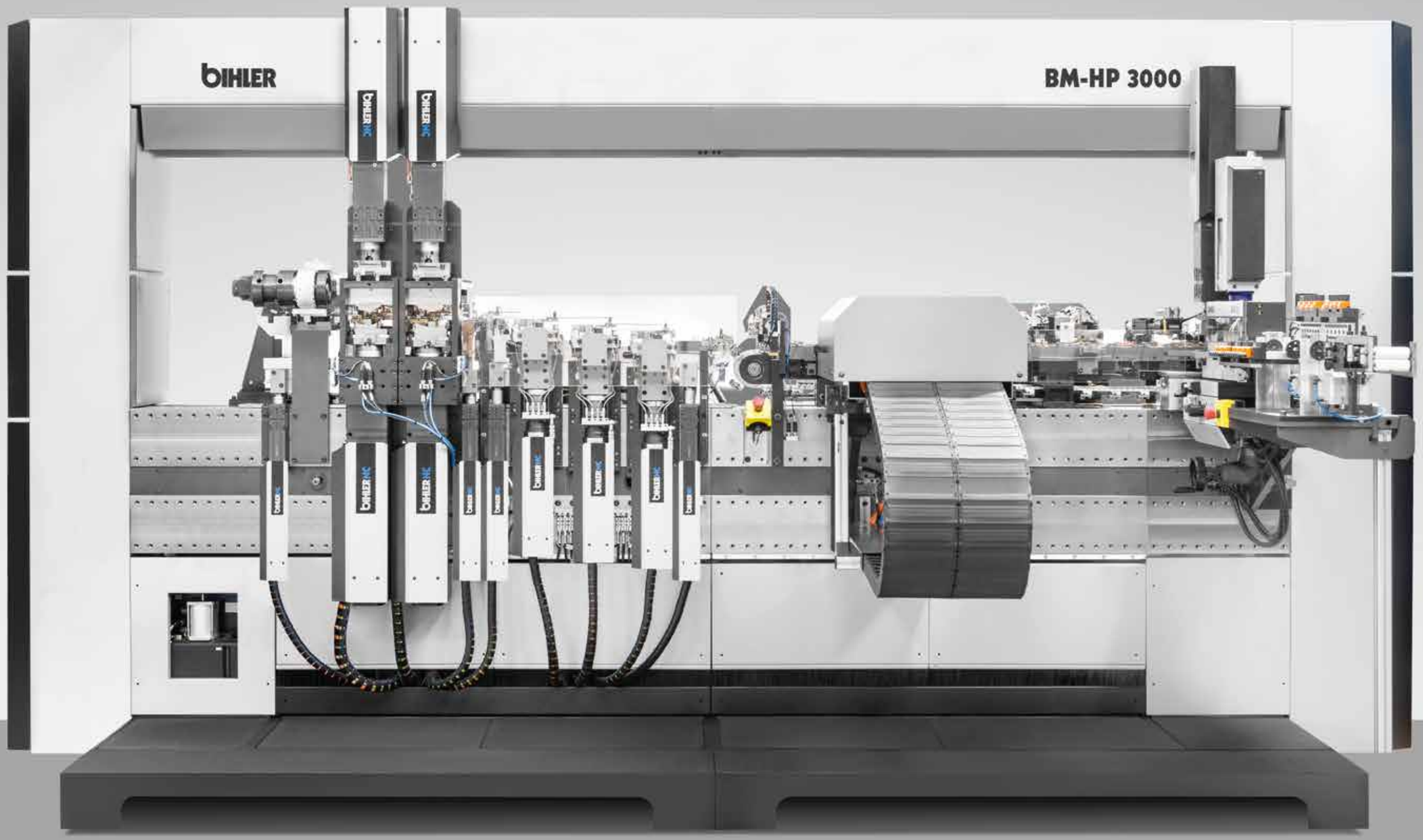
BM-HP 3000

Servo system for the production of hairpins

BIHLER

Efficient and flexible production of hairpins



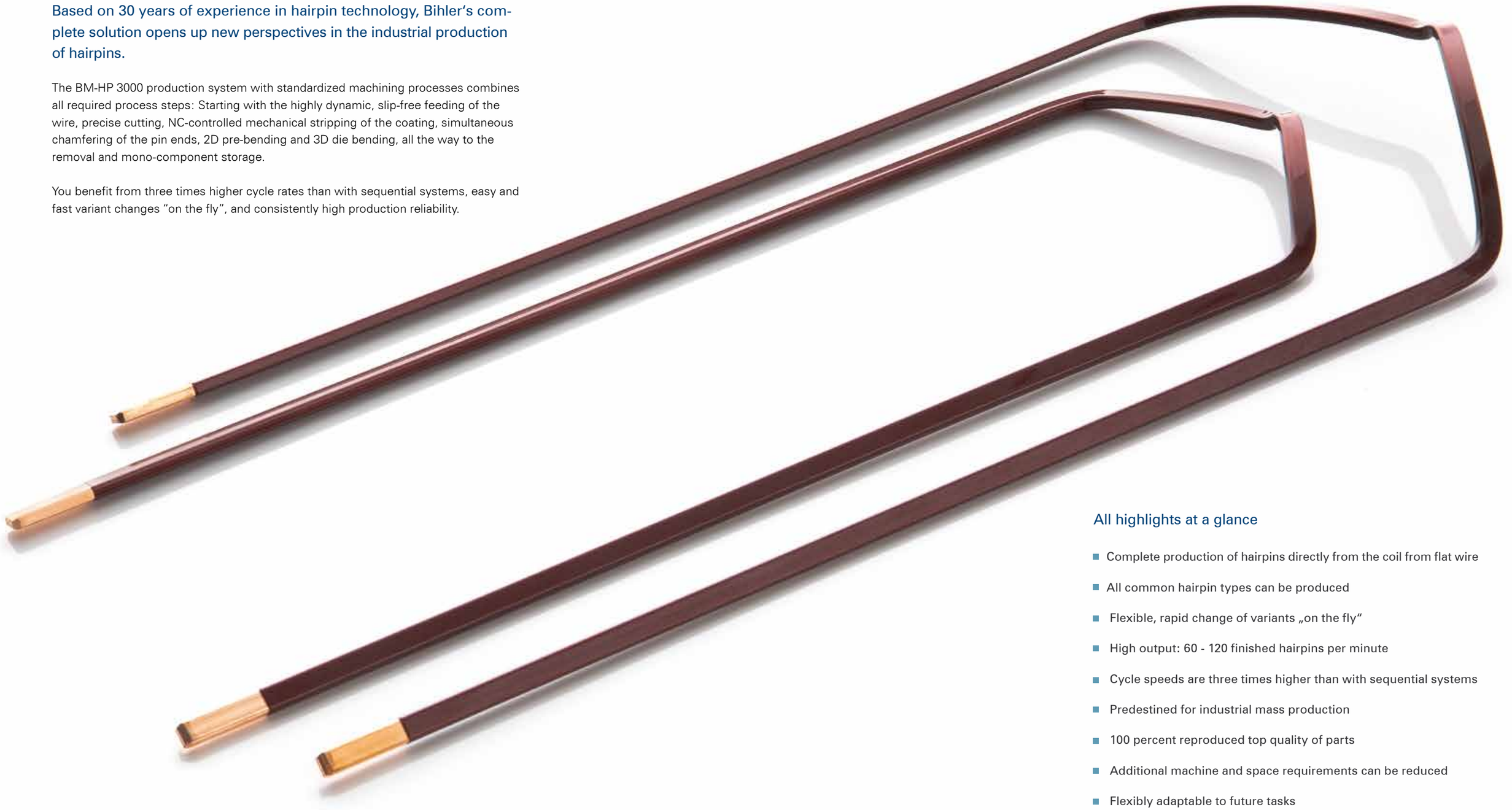
BM-HP 3000

Highlights

Based on 30 years of experience in hairpin technology, Bihler's complete solution opens up new perspectives in the industrial production of hairpins.

The BM-HP 3000 production system with standardized machining processes combines all required process steps: Starting with the highly dynamic, slip-free feeding of the wire, precise cutting, NC-controlled mechanical stripping of the coating, simultaneous chamfering of the pin ends, 2D pre-bending and 3D die bending, all the way to the removal and mono-component storage.

You benefit from three times higher cycle rates than with sequential systems, easy and fast variant changes "on the fly", and consistently high production reliability.

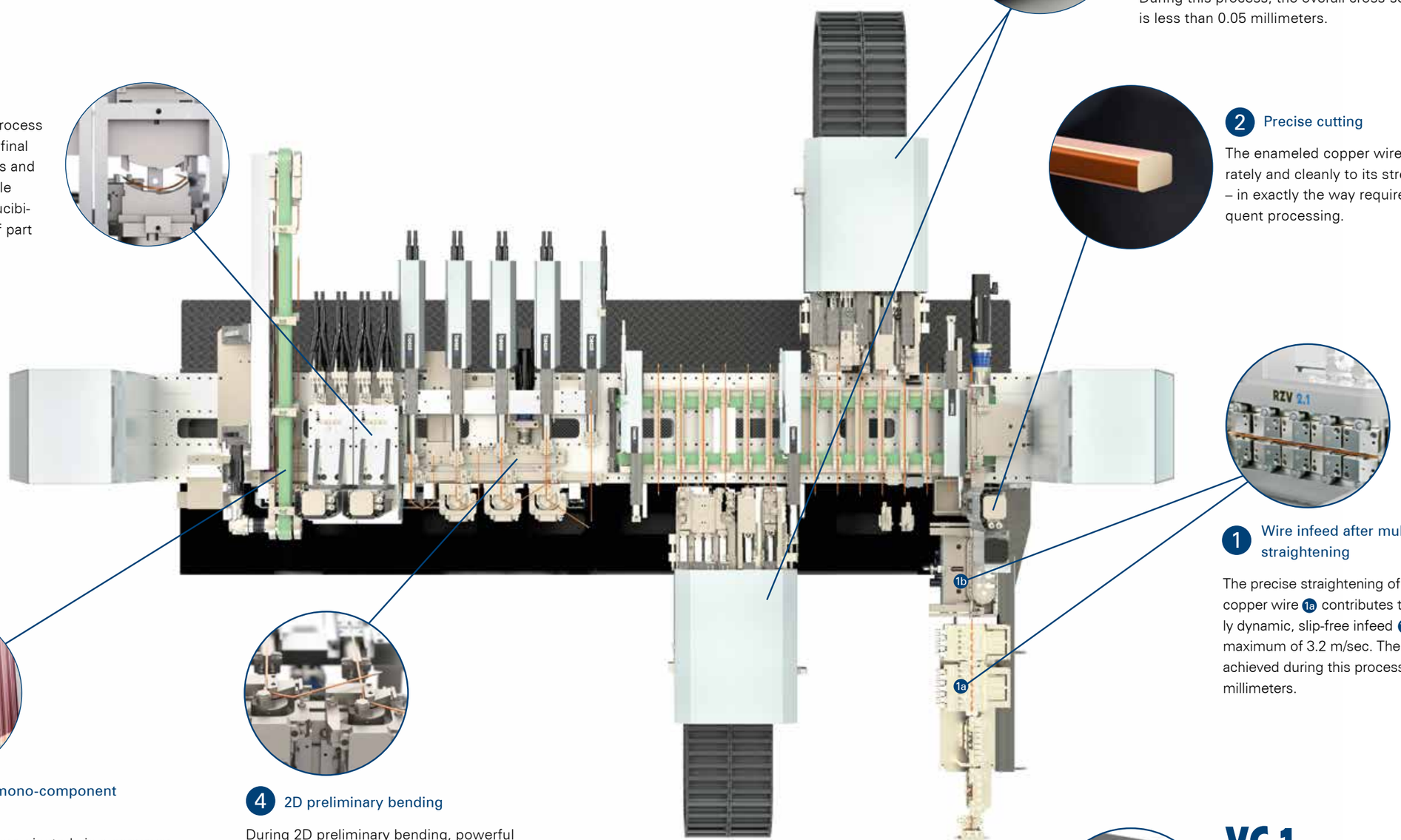


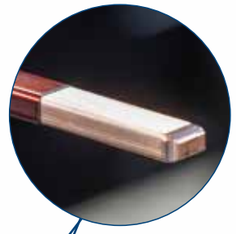
All highlights at a glance

- Complete production of hairpins directly from the coil from flat wire
- All common hairpin types can be produced
- Flexible, rapid change of variants „on the fly"
- High output: 60 - 120 finished hairpins per minute
- Cycle speeds are three times higher than with sequential systems
- Predestined for industrial mass production
- 100 percent reproduced top quality of parts
- Additional machine and space requirements can be reduced
- Flexibly adaptable to future tasks

BM-HP 3000

Process steps





3 Mechanical isolation removal and chamfering of pin-ends

The automatic removal of the isolation and simultaneous chamfering of the two ends of the enameled copper wire are performed mechanically. Online measurements guarantee a consistent copper core. During this process, the overall cross-sectional loss is less than 0.05 millimeters.

2 Precise cutting

The enameled copper wire is cut accurately and cleanly to its stretched length – in exactly the way required for subsequent processing.

1 Wire infeed after multilevel straightening

The precise straightening of the enameled copper wire 1a contributes to the highly dynamic, slip-free infeed 1b of up to a maximum of 3.2 m/sec. The repeat accuracy achieved during this process is +/- 0.02 millimeters.

5 3D die-bending

The high-precision 3D die-bending process gives the heads of the hairpins their final shape. The top-quality characteristics and precise control of the process module ensure one hundred percent reproducibility. As option: Final measurement of part geometry and inline adjustment.

6 Transport and mono-component storage

The finished hairpins are ejected via a conveyor belt for unmixed, mono-component storage. The module is also equipped with open interfaces for further customer connections.

4 2D preliminary bending

During 2D preliminary bending, powerful servo units ensure the correct geometry values, which can be freely programmed if required.

VC 1

Machine and process control

You operate the BM-HP 3000 and all processes simply and safely via the Vari-Control VC 1 central control platform.

(subject to change without notice 09/21)

Otto Bihler Maschinenfabrik GmbH & Co. KG
Lechbrucker Str. 15
87642 Halblech
GERMANY

+49(0)8368/18-0
info@bihler.de

www.bihler.de

Your contact:
Martin Lehmann
Key Account Manager E-Mobility
+49(0)8368/18-136
martin.lehmann@bihler.de