



NC Processing Modules

High-performance processing modules for production,
assembly and processing tasks

Perfect interaction

Material feeding, thread forming, screw insertion, contact welding, parts handling, insulation stripping

Bihler's strength has always been the perfect interaction of the greatest possible number of production processes on one machine. Thanks to their modular design, high-performance Bihler NC process modules as well as third-party modules can be flexibly integrated into production concepts on Bihler systems and third-party installations.

For maximum vertical integration and added value in your production.

High-performance processing modules for serial production

Bihler processing modules are designed for the extreme conditions in serial production. These environments are characterised by quick cycle speeds and fast signal processing. The processing modules generally have to be operated in exact synchronicity with the machine. For maximum reliability, recording of measured values, sensors and monitoring functions are integrated into every process.

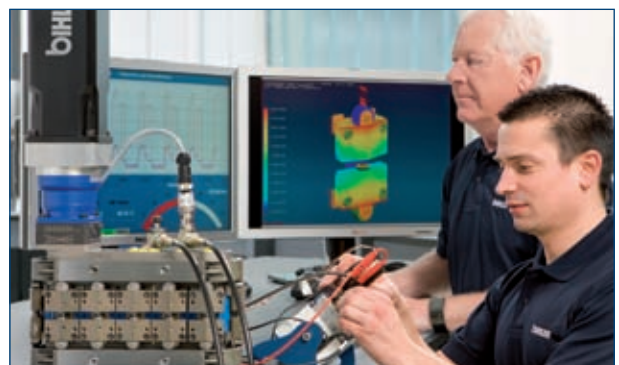


User-friendly operation

The customised menu assists you with all your activities. Simple input screens facilitate quick parameterisation of process modules. Clearly structured operating menus are intuitive to use. Each process has customised input fields at different levels. On the second level (advanced), for example, you can make detailed optimisations.

One-stop shop

Bihler develops, manufactures and assembles all processing modules in-house. You benefit from having one contact person for the process, device and control system. In this way, we even get behind the interfaces. If you have special requests, we modify the modules according to your individual requirements.



Perfect support thanks to bAssist and remote maintenance

The multimedia diagnostic online assistance system bAssist supports your daily work with info texts and operating instructions. You can quickly and easily store digital files like videos, PDFs or images for your tasks, set-up operations etc. and also save time and money with remote maintenance. On receiving your approval, a Bihler specialist will connect to your machine, detect any faults in the control system and resolve operating faults and input errors immediately.



Extensive process expertise

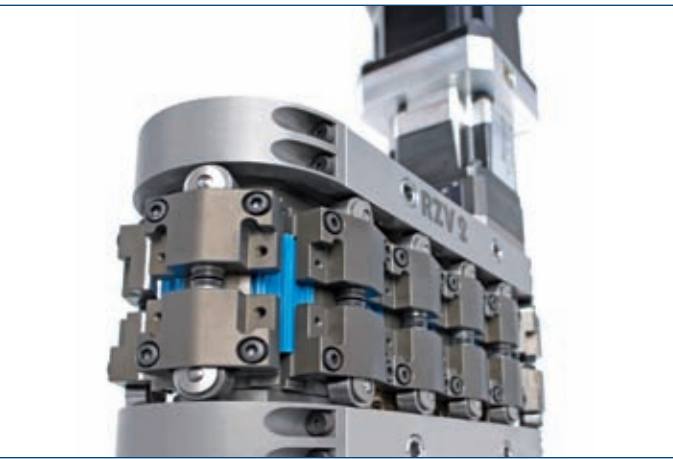
For more than 30 years, the integration of key technologies in fully automated processes has been one of the key areas of expertise at Bihler. The extensive process expertise gained, in particular in relation to Bihler welding technology, is an important factor in the global success of Bihler's production systems.



Benefit from our service portfolio

Our sophisticated service portfolio accompanies you from the first feasibility study to the implementation of the production solutions as well as through the entire lifecycle of your machine.



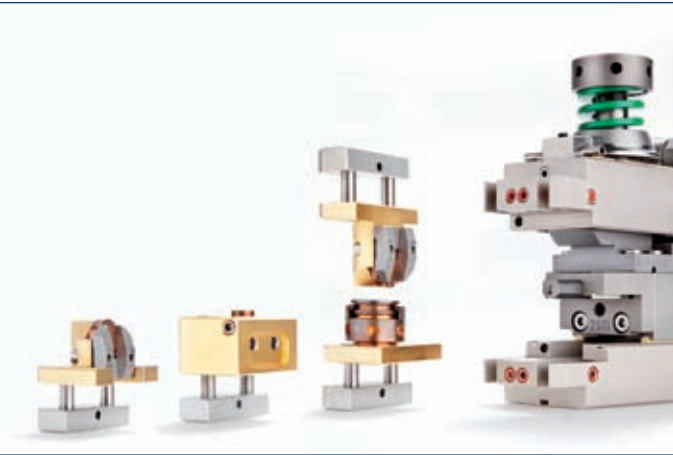


Material feed

Radial gripper feed RZV 2¹

Safe and precise feeding of strip and wire material at production rates of up to 1,200 strokes per minute.³

- Freely programmable feed lengths from 0 - ∞
- Achieves faster feed times than mechanical feeds
- Wire and strip do not require setup
- Patented adjustment system that automatically adjusts thickness tolerances on the strip material
- Maximum wire and strip dimensions 9.5 x 300 mm (S,∅ x B)



Contact welding

Contact welding devices D...Q... & NC control¹

Reliable welding/soldering of contact materials to manufacture contact base components with production rates of up to 800 contact welds/min.³

- Different device types for contact sizes up to a max. of 8.5 x 8.5 x 3.5 mm (LxWxH)
- Processing of contact material for semi-finished products in profile shapes round, profile, square and sheet plates
- Rapid changeover system for shortest possible setup times
- NC control guarantees flexible deployment (also under presses)



Contact welding of silver graphite AgC

Turntable welding device¹

Reliable welding/soldering of contact materials made from AgC at production rates of up to 180 contact welds/min.³

- Complete system with feeding, separating and welding
- Very high electrode durability
- Welding in parallel or perpendicular to the selection area
- Unit designed for sheet plates and/or strips
- Integrated electrode cleaning system
- Optional integrated set-back path measurement for quality monitoring



Nut welding

Nut welding system MSS¹

Complete system for welding of welding nuts at production rates of up to 120 nuts welded/min.

- Compact design for use in automated production lines
- Max. weld power 8 kN
- Max. nut size M10
- Optional integrated set-back path measurement for quality monitoring.

Thread forming/tapping

Thread former unit GSE¹

Highly efficient forming and cutting of threads on components at production rates of up to 260 threads/min.³

- 3 unit types for thread diameters from 2 to 20 mm
- Freely programmable device and process parameters
- Highly flexible deployment thanks to operation without mechanical pitch leader
- Rapid retooling system for shortest possible setup times
- Integrated process monitoring through control system e.g. detection of tool breakage, thread depth, ...

Joining screws

Multiple-use screw insertion unit MSE 2¹

Quick and reliable joining of bolted connections at up to 180 connection operations/min.³

- Modular design: sub-system (for inserting only) or complete system (separating, positioning and inserting)
- Patented torque coupling for constant torque (0.1 - 2.0 Nm)
- Screws with thread diameters up to 8 mm
- Integrated process monitoring through control system e.g. screw check, revolutions, insertion path
- Freely programmable device and process parameters
- Special version can also be used for spring coiling

Integration of progressive dies

Servopress SP 500²

Quick and easy integration of progressive dies

- Fully automated retooling for shortest possible setup times (retooling < 1 min)
- Highly dynamic torque as a direct drive
- Freely programmable and infinitely adjustable setting of press stroke, stroke position and speed
- Dynamic retraction depth control for constant BDC throughout the entire speed range
- Integrated monitoring of press capacity
- Preventative machine protection with integrated measuring systems with threshold value link

Technical data:

- Max. stroke rate 400 1/min
- Nominal force 500 kN
- Steplessly adjustable stroke range 15 mm – 63 mm
- Steplessly adjustable stroke position range 0 – 60 mm
- Tool mounting plate (L×W) 1000 mm × 560 mm

¹ For more information, see flyer or brochure.

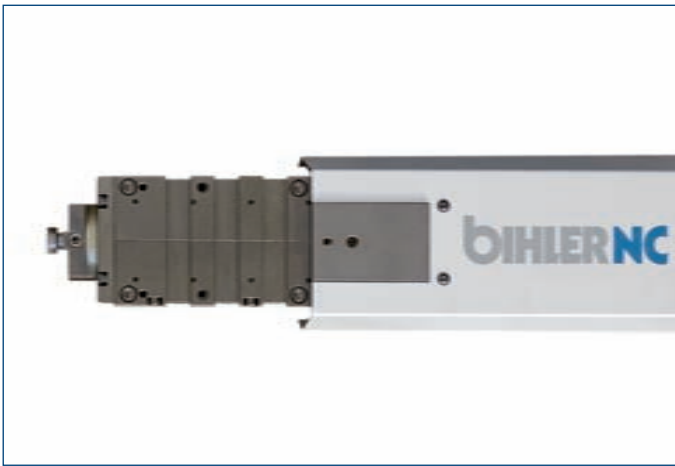
² By removing the blanking punch in the progressive die, the components can be processed further on the hanging rack. This makes it possible to achieve additional added value.¹

³ Dep. on size / dimension / length / measurements

⁴ Dep. on stroke length and load

⁵ Dep. on gripper reaction times





Tool movements

NC units

Quick and exact execution of tool movements at process speeds of up to 240 1/min.⁴

- Freely programmable stroke movements and movement profiles
- Maximum power can be freely selected across the whole working range, no fixed BDC
- No change of mechanical components during setup
- Different sizes and models depending on the type of use:
 - NC slide units (NCA) for linear movements
 - NC lathe mandrel for purely rotational movements
 - NC lathe mandrel for combined linear/rotational movements

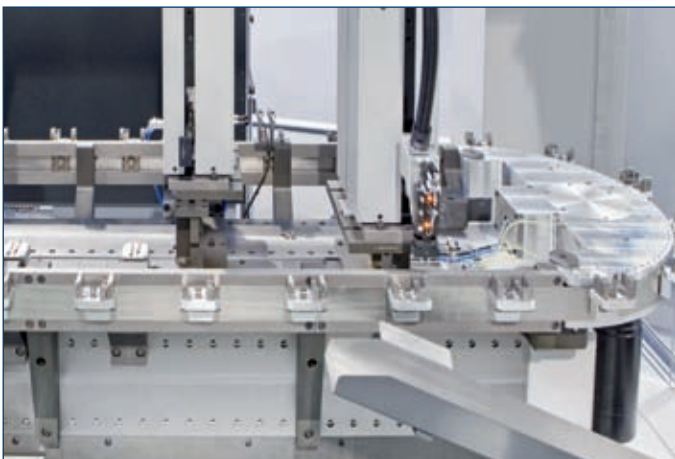


Cutting and processing tools

NC dual point eccentric press NCP

Precise punching and cutting of metal strips

- Different sizes for nominal power up to 300 kN
- Mechanical stroke position adjustment
- Fast cycle speeds up to 250 strokes/min.
- Optionally with integrated press power monitoring
- Compatible with presses of mechanical RM and GRM machines



Parts transport

NC transport belt

Quick and reliable transporting and positioning of components at up to 150 cycles/min.³

- Freely programmable transport distances up to 100 mm
- Different sizes and variants depending on the type of use
- Very precise positioning of components
- Assembly accessible from all sides
- Horizontal and vertical operation possible
- Work piece carriers with rapid clamping and changeover system



Parts handling

Pick & Place unit PPE 2¹

Quick and flexible parts handling at up to 120 P&P cycles/min.⁵

- Freely programmable axle positions
- Freely definable movement profiles
- Integrated distance measuring system for repetition accuracy of ± 0.01 mm
- Integrated temperature compensation
- Different gripper systems can be integrated
- Work area: vertical 75 mm, horizontal 145 mm

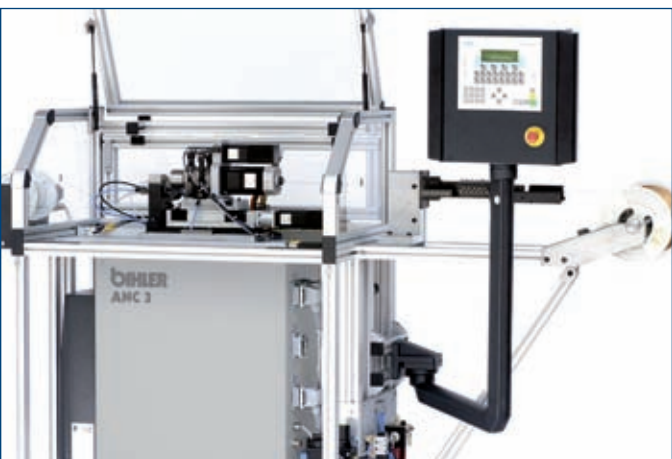


Parts handling

NC team axle¹

Quick and reproducible insertion of parts in rigidly linked processes at up to 200 cycles/min.⁵

- Continuous feeding of parts without idle travel thanks to 180° cycle movement and parallel gripper
- No loss of time thanks to simultaneous part insertion and pick-up
- Processing radius up to 100 mm
- Vertical stroke 70 mm

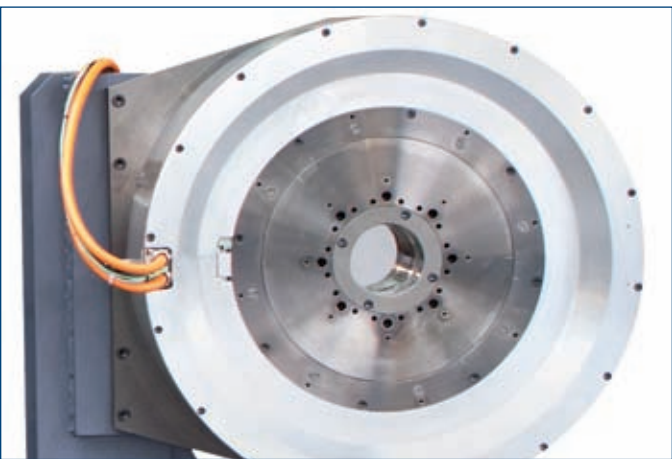


Insulation stripping

Insulation stripping unit ANC 3¹

Insulation stripping for enamelled wires at up to 140 cycles/min.³

- Reliable insulation stripping with hard metal blades
- Process parameters (e.g. insulation stripping length) can be programmed freely
- Wire diameter 0.5 - 5.0 mm
- Max. insulation stripping length 45 mm



Calibrating round components

NC radial press RP 5000

Surface pressure on component up to 5,000 kN

- Highly dynamic torque motor
- Up to 200 cycles/min.
- Electronic stroke range adjustment
- Rapid retooling system for active tool components



Parts feed

Flexible compact feed system ZSK¹

Feeds parts at feed speeds of up to 30 m/min.³

- Complete system for bunkering, pre-separating, sorting and feeding parts
- Multi-lane feeding is possible
- Modular system, fast retooling times thanks to the ease with which parts can be changed
- Max. component size 50 mm³, max. part weight 80 g/component



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