



**BIHLER**  
**RM-NC**

P 200 KN NC

**b**  
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# RM-NC GRM-NC

Servo-controlled  
stamping and forming machines

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With the servo-controlled RM-NC and GRM-NC stamping and forming machines, you now produce traditional stamped and formed parts from wire and strip, round bodies as well as complex progressive components with much higher flexibility and productivity. Benefit from very fast tool changeover, demand-oriented handling even of the smallest batch sizes and first-class product quality.

In conjunction with the LEANTOOL system, the implementation of radial and linear bending tools will be particularly easy, quick and cost-efficient. Thanks to the full tool compatibility with RM and GRM machines, you can adapt and optimize existing tools for the servo machines in a very short time. Your advantages: You save up to 80 percent setup time and significantly increase your output.



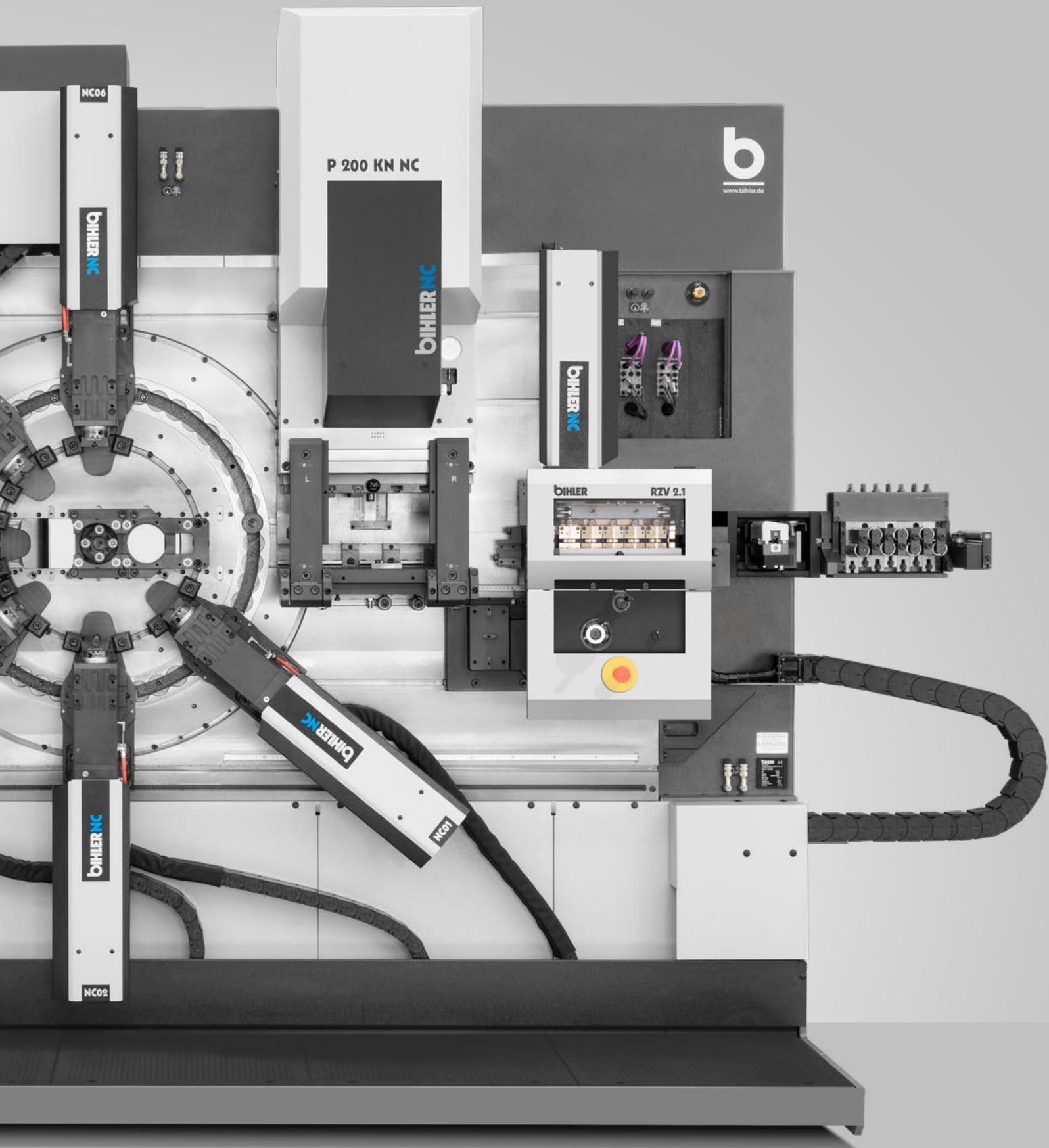
# RM-NC

## Highlights

- Highly productive manufacturing of stamped and formed parts from strip and wire as well as round bodies
- High production speeds of up to 300 parts / min.
- Standardized machine platform for LEANTOOL Radial R60
- Rapid response to short-term customer requests
- Full tool compatibility with mechanical RM series
- 80% reduction of setup time possible\*
- Possible output increase up to three times\*
- Convenient operation with VariControl VC 1 control system



\*Production tests: Transfer and optimization of tools from mechanical machine types to servo machine



NC06

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NC01

NC02

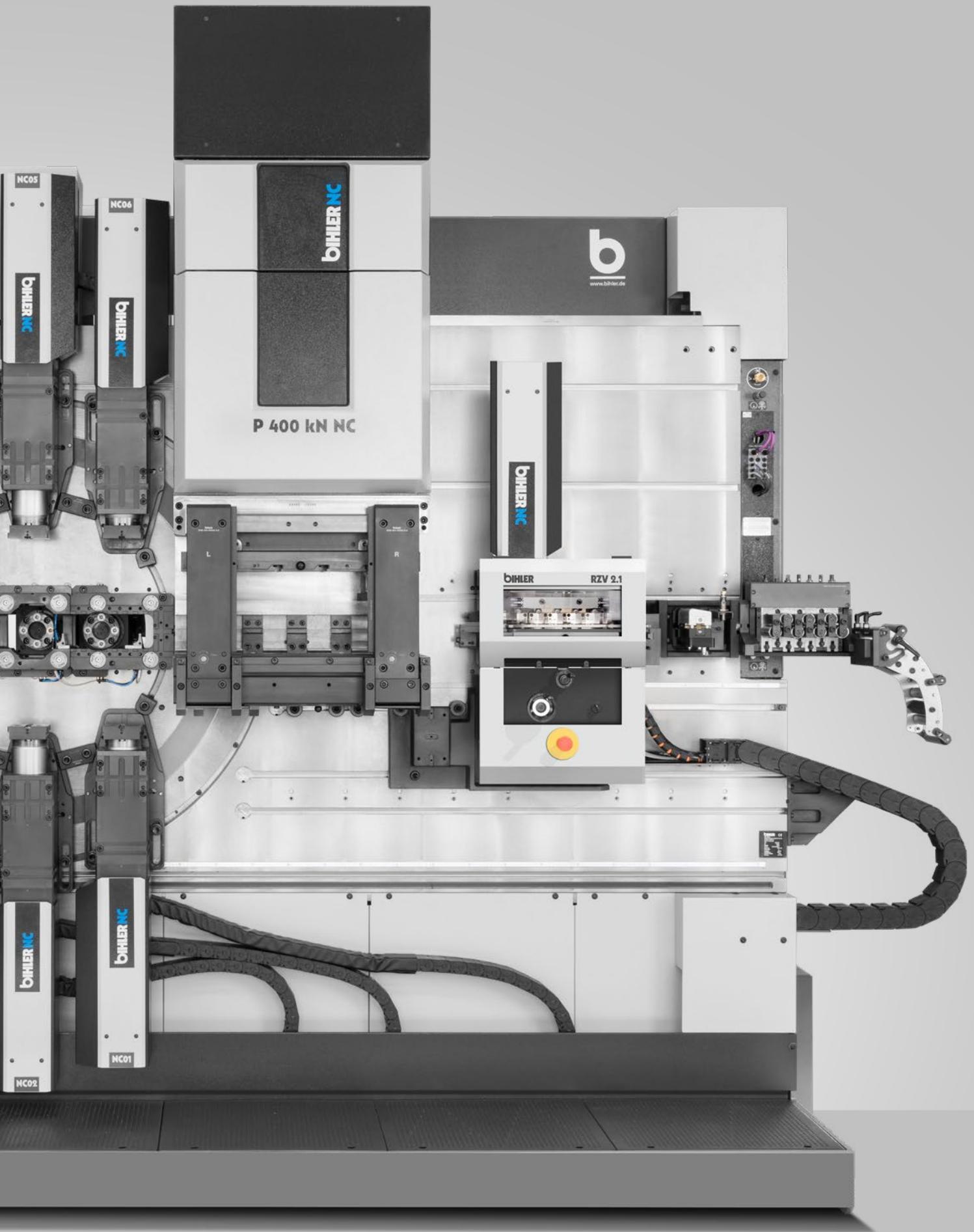
# GRM-NC

## Highlights

- Highly productive manufacturing of stamped and formed parts from strip and wire as well as progressive components
- High production speeds of up to 240 parts / min.
- Standardized machine platform for LEANTOOL Radial R100 and Linear L250
- Rapid response to short-term customer requests
- Significant reduction in tool costs
- Full tool compatibility with mechanical GRM series
- 80% reduction of setup time possible\*
- Possible output increase up to three times\*



\*Production tests: Transfer and optimization of tools from mechanical machine types to servo machine



# RM-NC / GRM-NC

Machine design

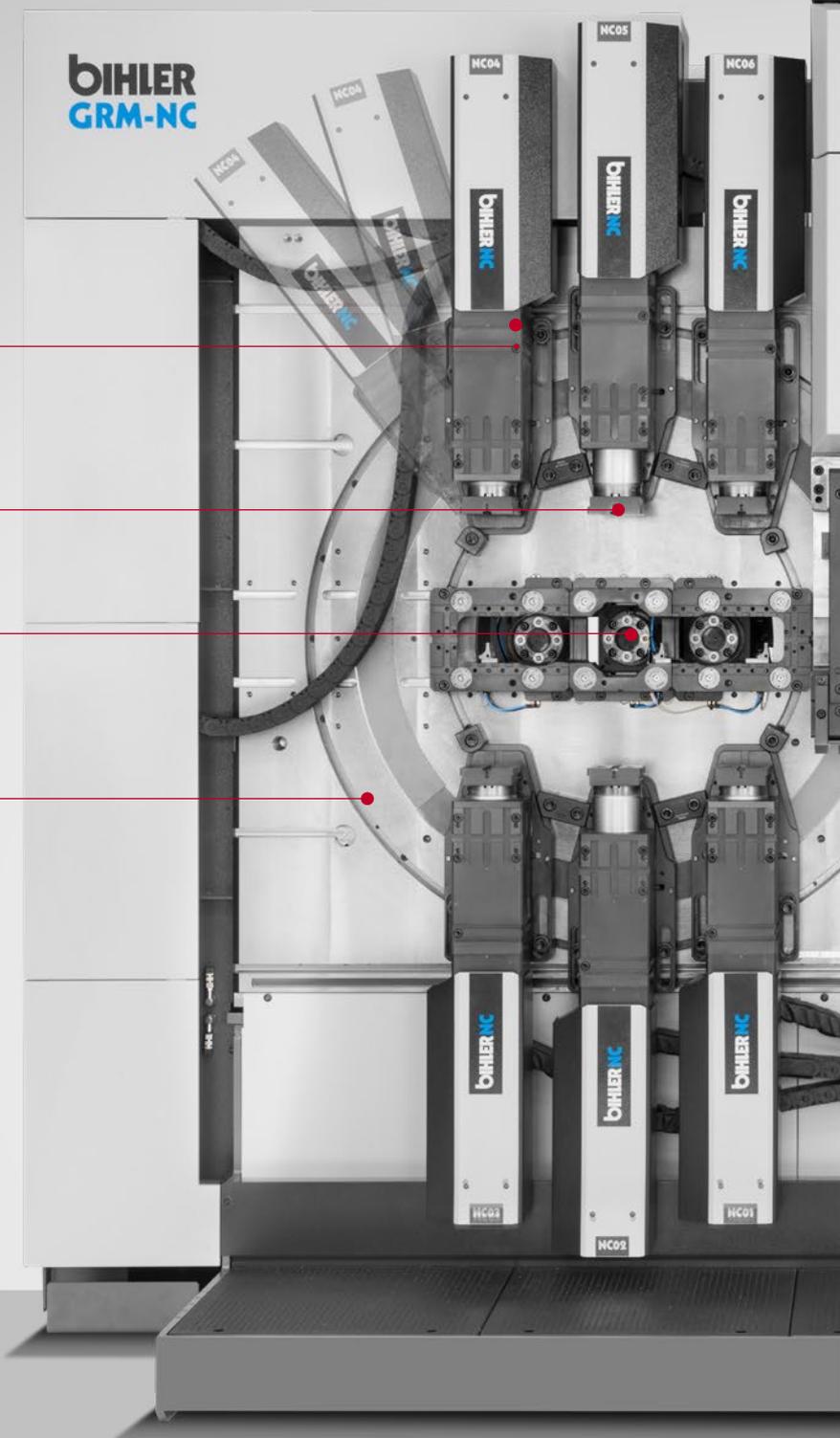
- Freely programmable:  
working stroke, BDC,  
stroke position adjustment,  
motion profile
- Integrated absolute position sensor
- No fixed stop on tool
- Integrated overload protection for  
NC components

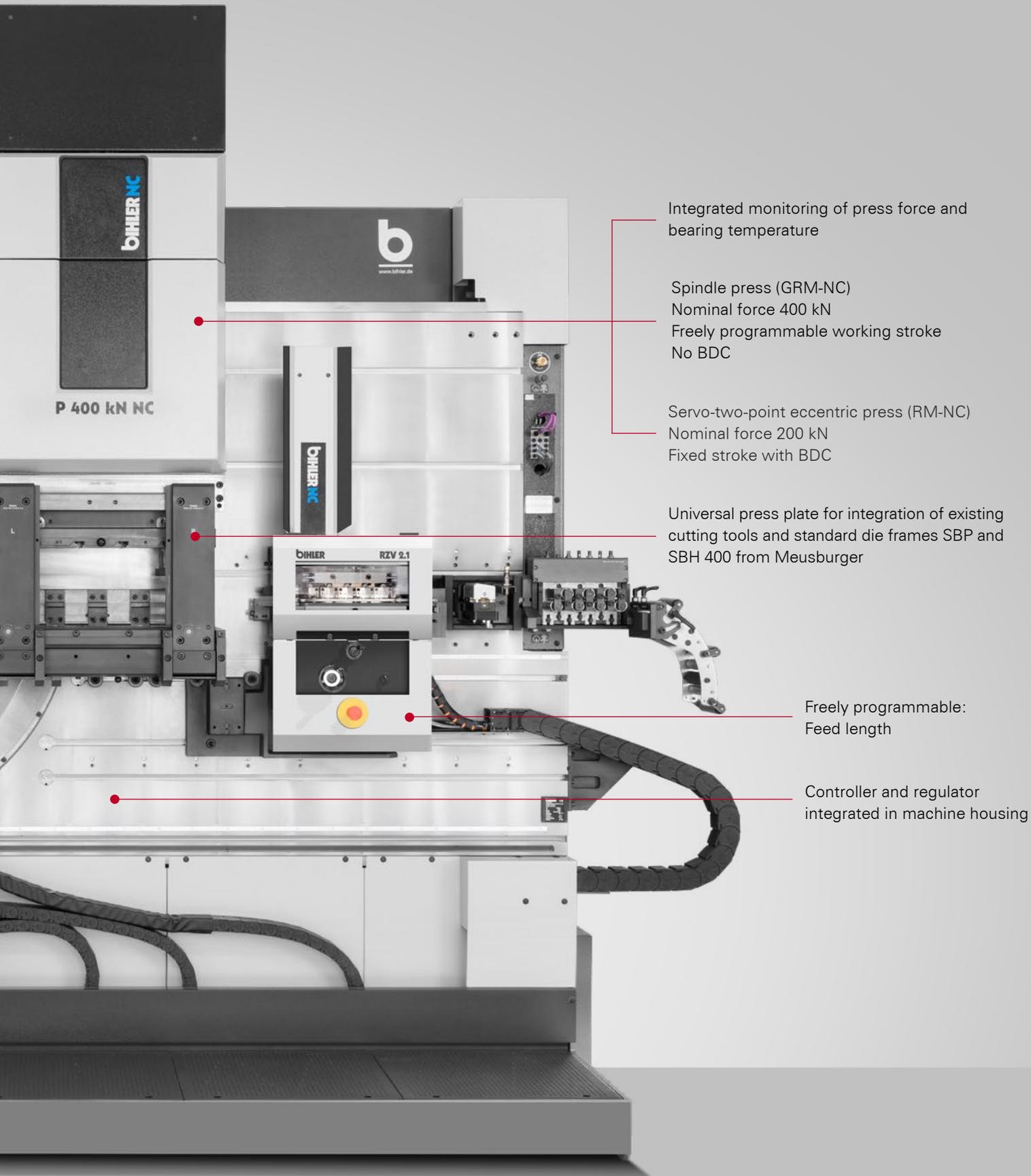
Compatible with RM and  
GRM series and LEANTOOL

Up to 3-fold  
central mandrel

Integrated adjustment and  
positioning unit for NC unit

Radial and linear arrangement





Integrated monitoring of press force and bearing temperature

Spindle press (GRM-NC)  
Nominal force 400 kN  
Freely programmable working stroke  
No BDC

Servo-two-point eccentric press (RM-NC)  
Nominal force 200 kN  
Fixed stroke with BDC

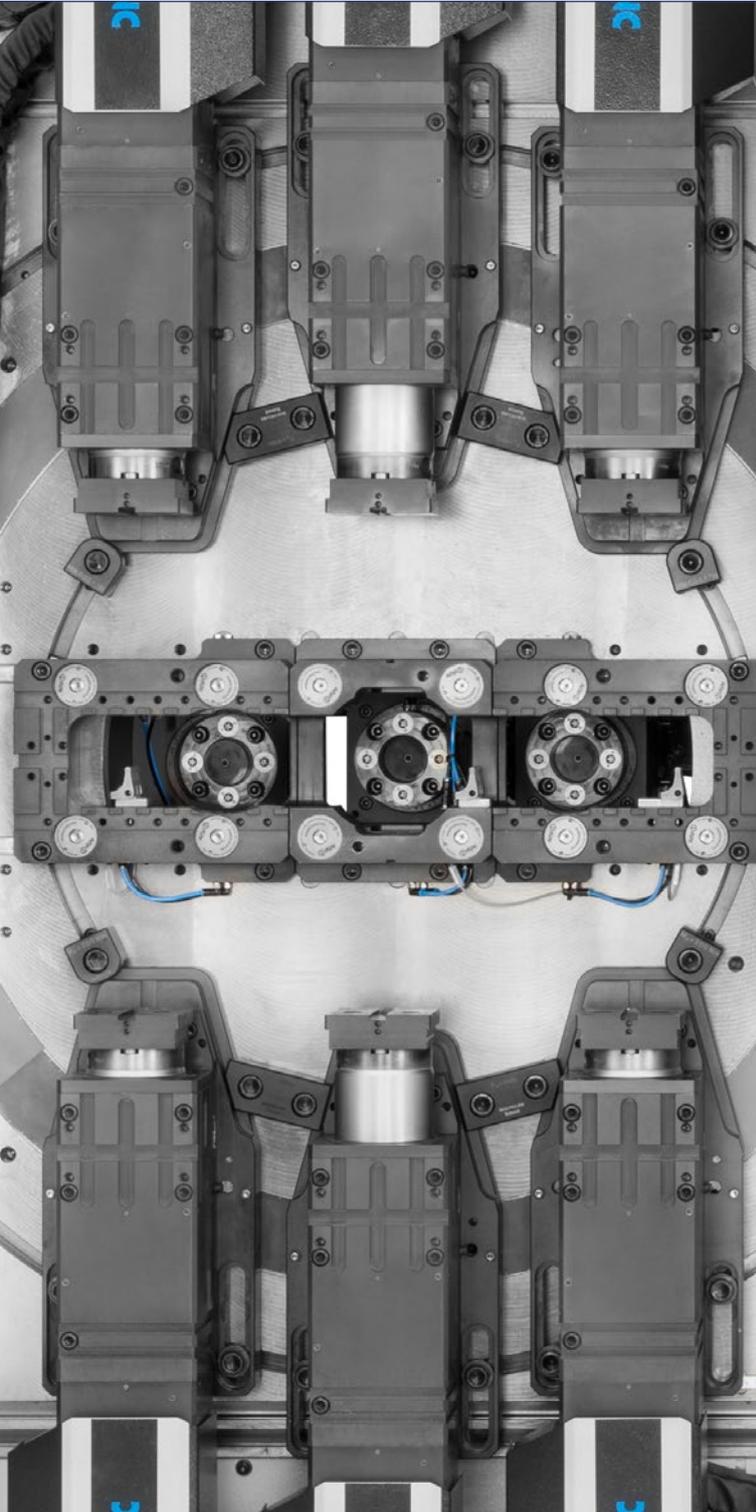
Universal press plate for integration of existing cutting tools and standard die frames SBP and SBH 400 from Meusburger

Freely programmable:  
Feed length

Controller and regulator  
integrated in machine housing

# RM-NC / GRM-NC

Units / Feed / Central mandrel



## Machining freedom and production reliability

The compact NC units offer plenty of machining freedom. Working stroke, working location and motion profile are programmed freely over the entire operating range. Maximum performance can be achieved at any time and in any stroke position. Forming motions can be implemented with constant force transmission.

Several features ensure a very high production reliability: All NC units have an integrated cooling and central lubrication system. The overload protection integrated on the software side protects the units from improper handling or overloading. For consistently high precision, all units are fitted with an integrated absolute measuring system.

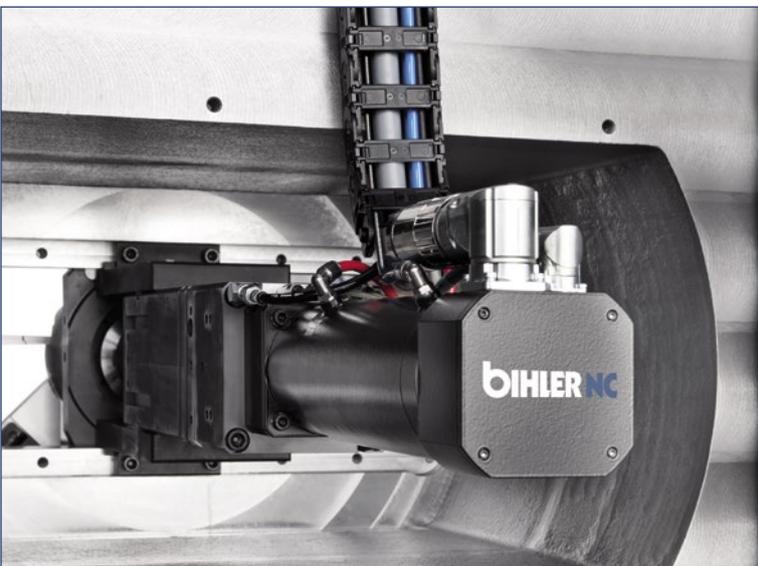
## Fast alignment of the NC units

With the adjustment and positioning unit, you can align the NC units in radial and linear direction quickly and precisely at the push of a button. You save the freely selectable positions in the tool program after the initial setup. When you call up the program again or after a tool change, you can reproduce all unit positions 100 percent.



### Highly dynamic material feed

The servo-controlled RZV 2.1 radial gripper feed unit impresses with high feed speeds and excellent positioning accuracy. Profit from variable feed lengths from zero to infinity as well as from various feed lengths within one total feed length. The RZV 2.1 automatically compensates for thickness tolerances in the material.



### Additional movements

The design with up to three central mandrels enables you to straighten out tools and exploit new application possibilities. The setup of the central mandrels is done from the front of the machine.



# LEANTOOL

Standardized tool kit  
for (G)RM-NC



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**LEANTOOL L250**

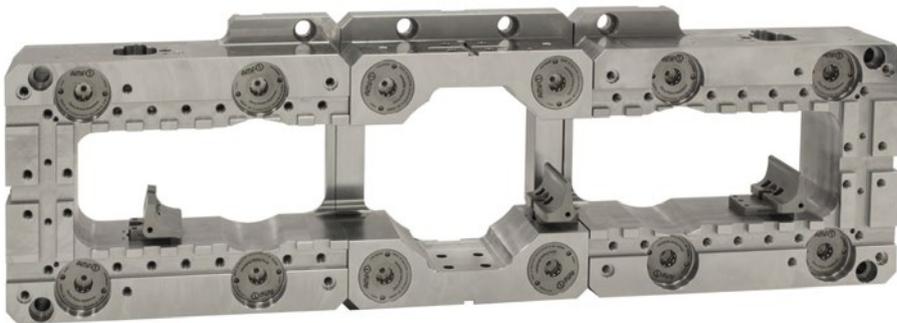
# RM-NC / GRM-NC

Universal basic equipment

The basic equipment is the central, universal interface for the following applications and tool technologies:

- Adaptation of existing tools from the mechanical RM and GRM series
- Implementation of new tools based on a mechanical machine
- New LEANTOOL radial tools
- New LEANTOOL linear tools

All listed applications can be implemented with the basic equipment. The fundamental elements of the basic equipment include the components tool carrier and base plates. You can use these elements independent of application and tool technology.

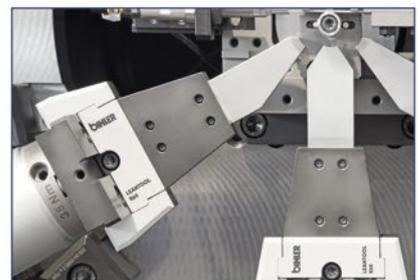
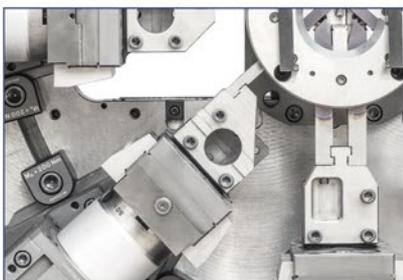


## Tool carriers

The tool carriers are equipped with quick clamping systems. The appropriate adaptation sets can be mounted on the clamping systems depending on tool technology. This makes setup at the push of a button possible.

## Base plates

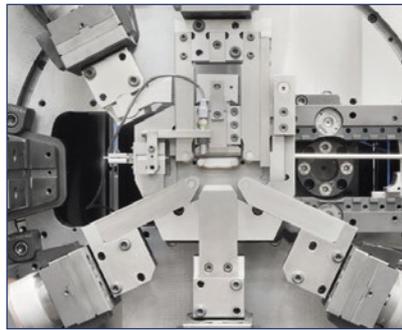
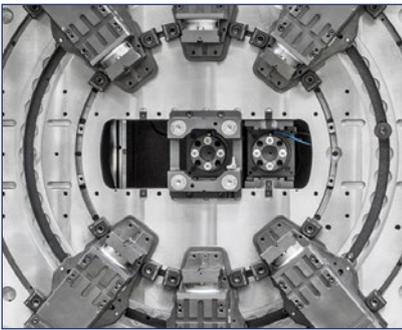
The base plate serves as a central and uniform interface for punch holder mounting. Depending on the application, different punch holders are used.



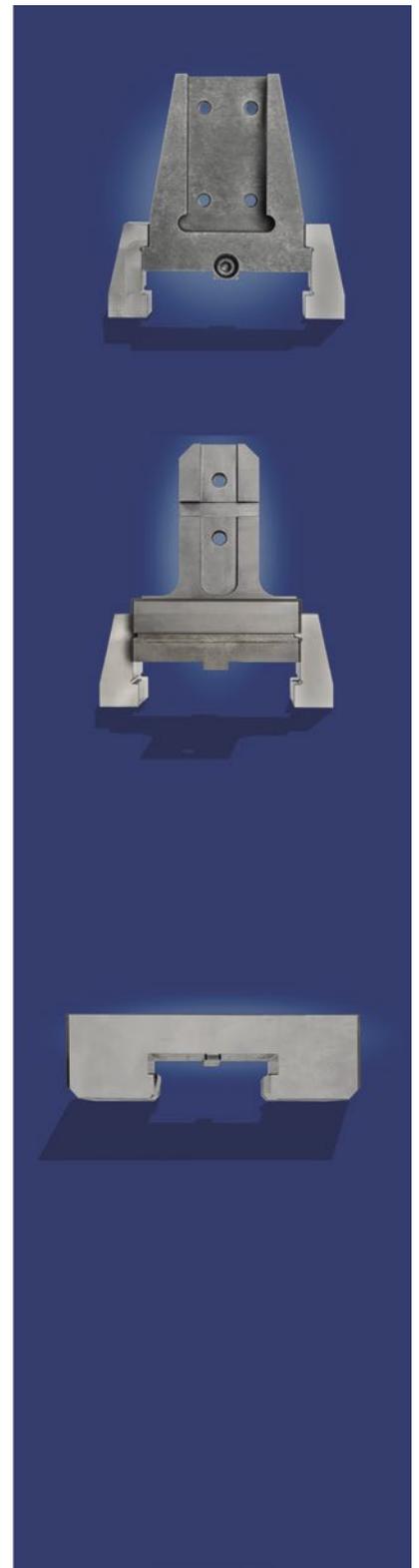
# ONE MACHINE PLATFORM FOR ALL APPLICATIONS

The number of tool carriers depends on the application. The subsequent extension of a tool carrier is possible at any time using the plug-in procedure. All mechanical, electrical, pneumatic and software interfaces are preconfigured in the machine and available as standard.

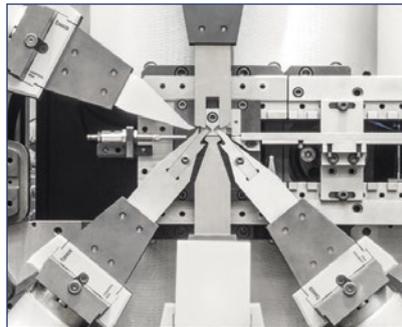
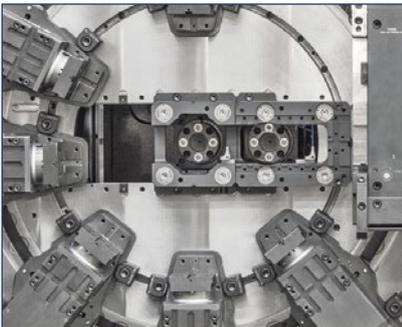
Adaptation of existing tools / new tools  
(based on mechanical machine)



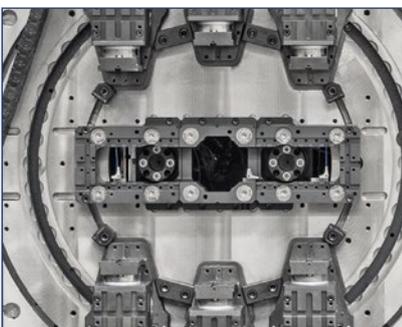
Standard parts  
(available on stock)



LEANTOOL Radial (RM-NC and GRM-NC)



LEANTOOL Linear (GRM-NC)



Benefit from these advantages:

- New LEANTOOL tools can be implemented at any time
- No subsequent modification with extensive effort
- Secure your future!

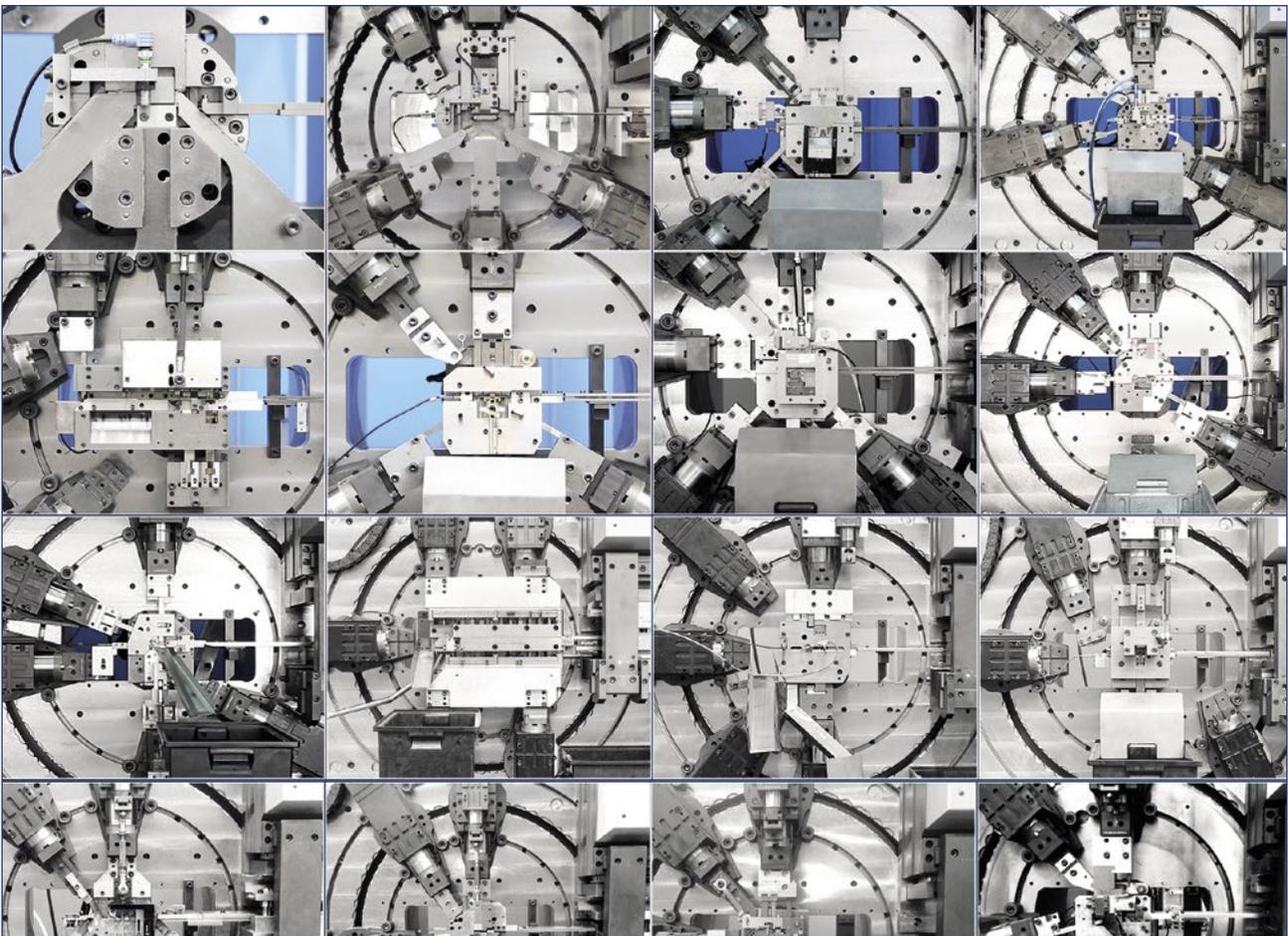
# RM-NC / GRM-NC

## Tool compatibility

### Full tool compatibility with (G)RM series

With the new features of the servo machines and the standardized adaptation options for existing Bihler tools, you save a lot of time and money. Especially when it comes to producing small to medium batches more efficiently, since setup time increases in relation to the total production time as batch size decreases. Production schedules are now difficult to monitor.

The two Bihler servo machines offer you decisive advantages. The RM-NC and the GRM-NC are fully compatible with all mechanical RM and GRM machines. All tools of these machine types can be quickly and easily adapted and optimized for the servo machines. This allows you to benefit from extremely short setup times, higher output and quick response to your customers' requirements.



Average 160% output increase and 80% setup time reduction / Source: 175 adapted existing tools on RM-NC and GRM-NC

### Advantages of a tool adaptation

- 80% reduction of setup time possible
- Output increase up to three times possible
- Guarantees faster throughput times for all batch sizes
- Lower production costs for small to medium batch sizes
- Very fast, flexible response capacity in production
- Simple, fast speed optimization

## Technical data RM-NC (GRM-NC)

	min.	max.	standard/optional
<b>NC units</b>			
Number	0	14 (12)*	* standard = 6 axes (> 12: additional axis cabinet)
Nominal force (kN)		20 (47)	standard GRM-NC = 31 kN
Stroke (mm)	0	120 (100)	
<b>Central mandrel units</b>			
Number	0	3 (3)	
Nominal force (kN)		20 (47)	standard GRM-NC = 31 kN
Stroke (mm)	0	120 (100)	
<b>Servo two-point eccentric press</b> <span style="float: right;">standard RM-NC</span>			
Nominal force (kN)		200	(300 kN press optional for GRM-NC)
Stroke (mm)	0	12	
<b>Servo friction press</b> <span style="float: right;">standard GRM-NC</span>			
Nominal force (kN)		(400)	
Stroke (mm)	0	(60)	standard GRM-NC = 16 mm
<b>Stroke rate</b>			
stepless ** (1/min.)	0	300 (240)	** depending on tool concept and max. force of press(es) or NC units
<b>Material dimensions</b>			
	strip thickness: max. 4 mm (4 mm) strip width: max. 80 mm (90 mm) wire Ø: max. 4 mm (6 mm) (depending on material and process)		
<b>Dimensions (W×D×H, mm)</b>			
w/o soundproof cabin	3050 (3282) x 1820 x 2540 (2740) w/o press / 2600 (3055) with Presse		
<b>Weight (kg)</b>			
	approx. 6000 (9500) (without tool)		

# VC 1

Machine and process control system





## Highlights

- Easy, flexible machine setup without external programming device
- Customized menu navigation for fast retooling
- bASSIST multimedia diagnostics and online help system
- Freely configurable, individually adaptable production menus and user interfaces
- Integrated recording of measurement and production data (OPC UA interface)
- Remote service (optional)

## Secure operation

The VariControl VC 1 supports the machine operator like a second person. The machine is operated comfortably via a swivel terminal with touchscreen and other control elements. The control cabinet and the controller are fully integrated in the machine housing of the RM-NC and the GRM-NC.



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