## **RM SERIES**

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Mechanical Stamping and Forming Machines



# EFFICIENT MASS PRODUCTION OF STAMPED AND FORMED PARTS

The mechanical stamping and forming machines of the RM series offer you maximum efficiency in the mass production of your stamped and formed parts. The high-quality machines convince with very high speeds up to 600 1/min. and very low hourly rates. Designed for radial and linear tool concepts, the compact machines offer up to 1,400 mm processing length. For high-strength steel strips, carbide tools are used in the press modules.

The open design of the automatic stamping and forming machines allows flexible integration of processes such as contact welding, thread forming, screw joining into production concepts. Innovative quick-change systems on the slide and press units ensure the shortest possible setup and tool change times. The intuitive VariControl control system and integrated sensor monitoring systems ensure maximum process stability and consistent top quality of the manufactured components.





- Compact machine system for the mass production of stamped and formed parts
- High production speeds up to 350 1/min.
- Flexibly designed for radial and linear tooling concepts
- Rigid 90 kN two-point eccentric press with large mounting area
- Large center aperture in the work-plate for flexible central mandrel movements
- 900 mm processing length on the machine plate
- Easy and secure handling with VC 1E control
- Compatibility with RM 35, RM 40 and RM 40E tools







#### Precise material feed

The mechanical infeed feeds the wire or strip material precisely and quickly to the machine. The standard feed time reduction increases the control angles for optimized subsequent processes. The gripper and the retainer are hydraulically operated and electronically controlled. The intermediate ventilation of the retainer is freely programmable.

As option: Integration of the servo-controlled RZV 2.1 radial gripper feed.





#### Stable press for precise cuts

The 90 kN two-point eccentric press is characterized by a large space for die sets up to 320 mm in length and 170 mm wide. The press casing offers high rigidity - for maximum precision of workpieces and long tool service life. The RM 40K can also be equipped with an optional 70 kN eccentric press. Equipment from older machines is compatible.

#### Slide units for tool movements

Depending on the application normal, narrow, extended, double and sub-slide units are available. Standard sensor-based protection of the slide unit functions guarantees maximum production safety. The old tool mounting-system is also retained, allowing the RM 35, RM 40 and RM 40E tools to be fitted to the new machine's slides.



#### Central mandrels for additional movements

The workplate has a large center aperture (400 mm x 122 mm), allowing a maximum of 3 mechanically central-mandrels to be integrated flexibly in the overall concept from the rear of the machine. 6 mounting positions are available on the rear side of the machine. These movements segregate the tools, making them even more accessible and provide new areas of application. NC central mandrels can be mounted optionally.









- Universally applicable machine system for enlarged parts range (high tensile steels)
- High production performance up to 350 1/min.
- Strong 150 kN two-point eccentric press unit with large mounting area
- High press rigidity allows the use of high performance carbide tools
- 900 mm processing length on the machine plate
- Guaranteed process reliability through press force monitoring and bearing temperature sensors
- VariControl VC 1E for easy and reliable operation
- Fully compatible with the RM series









#### Highly dynamic feed

The servo-controlled radial gripper feed RZV 2.1 feeds wire or strip material highly dynamically and precisely to the RM machines. Benefit from variable feed lengths from zero to infinite as well as different feed lengths (back and forth) within one work cycle.

The shorter feed angle leaves a greater machining angle for optimum cam plate movement. This results in smoother running and higher production speeds. Multiple clamping ensures gentle handling of the material. The RZV 2.1 automatically compensates for thickness tolerances of the material.

A mechanical feeder unit with feed time reduction can be installed as an option.

#### Press for high performance carbide tools

The powerful 150 kN two-point eccentric press offers a lot of mounting space for modern dies. Strips of up to 80 mm wide can be machined precisely. Wider strips are possible as option. The high rigidity of the press extends tool life and allows the use of high performance carbide tools.

#### Maximum process reliability

Bearing temperature sensors and the integrated press force monitoring system guarantee highest tool and process reliability.

#### Very fast exchange of dies

Two pivoting tie-rods on the press ease the removal and fitting of die sets and help to shorten set-up times. An optional hydraulic tool-clamping system also accelerates and simplifies set-up.

#### Actuations for welding units

Up to two mechanical actuations for welding appliances can be mounted on the press housing.



#### Two additional drive positions

Two drive positions beneath the press facilitate movements from below without having to lift the punching strip in the cutting tool. Drawing bushings, bending cores or bending movements can be actuated. Complex turn rounds in the cutting tool can therefore be avoided.





- Universally applicable machine system for sub-assembly production (designed for strip material made from high-tensile steals)
- High production performance up to 350 1/min.
- Separate press module for more space on the working plate
- Powerful 200 kN two-point eccentric press with large mounting area
- More than 1.400 mm of manufacturing space in case of linear toolings (working plate + press unit)
- Easy integration of additional processing units for thread forming, screw insertion, welding, assembly etc.
- VariControl VC 1E for intuitive and secure handling



![](_page_7_Picture_0.jpeg)

![](_page_7_Picture_1.jpeg)

#### Free space for extensive machining

The clear separation of stamping and forming provides plenty of free space for extensive machining operations. More than 1,000 mm of working path is available for linear tool solutions on the workplate of the RM 40P. Additional process modules for thread forming, joining screws, welding, assembly, laser marking, etc. can be flexibly integrated into corresponding applications. Together with the cutting tool in the 200 kN two-point eccentric press, you benefit from more than 1,400 mm of machining travel for particularly high added value.

![](_page_7_Picture_4.jpeg)

#### Mechanical or NC central mandrels

The workplate has a large center aperture (400 mm x 122 mm), allowing a maximum of 3 mechanically central-mandrels to be integrated flexibly in the overall concept from the rear of the machine. This segregates the tools, making them even more accessible and provides new areas of application.

Optional integration of NC central mandrels. Set-up takes place completely from the front of the machine.

![](_page_7_Picture_8.jpeg)

![](_page_7_Picture_9.jpeg)

![](_page_7_Picture_10.jpeg)

### Work safer

The sophisticated design makes the operator's work safer. All the electric, pneumatic, hydraulic and lubrication pipes are laid behind the machine paneling. The danger of buckling or severing of cables or hoses and/or the associated plug connectors is effectively prevented.

Rapid access to the pipes is made by simply opening the panels. All cables can be easily run through the cable channel openings.

![](_page_8_Picture_0.jpeg)

- High production speeds up to 350 1/min.
- Rigid 90 kN two-point eccentric press with large mounting area
- Large center aperture in the work-plate for flexible central mandrel movements
- 900 mm processing length on the machine plate
- Compatibility with RM 30E
- Easy and secure handling with VC 1E control
- Compact design with integrated control cabinet

![](_page_8_Picture_9.jpeg)

![](_page_9_Picture_0.jpeg)

- High speed machine system for enlarged parts range (stamped and formed parts made from high tensile steels)
- High production performance up to 600 1/min.
- Strong 150 kN two-point eccentric press unit with large mounting area
- High press rigidity allows the use of high performance carbide tools
- 900 mm processing length on the machine plate
- Guaranteed process reliability through press force monitoring and bearing temperature sensors
- VariControl VC 1E for easy and reliable operation

![](_page_9_Picture_9.jpeg)

![](_page_10_Picture_0.jpeg)

- Simple, versatile machine setup without external programming device
- Customized production menues and user interfaces
- Multimedia diagnostic and online help system bASSIST
- Freely configurable production menus and user interfaces
- Integrated monitoring system of production and machine sensoring data

#### Easy and secure handling

The RM series is equipped with the machine and process control VariControl VC 1E (VC 1 as option). The control system ensures simple handling and monitoring of complex production and assembly processes via a 15" touch display and a multifunctional keyboard. The control cabinet is fully integrated in the machine housing.

![](_page_10_Picture_9.jpeg)

#### Direct programming

Direct and easy programming of NC process modules (feeding unit, thread forming unit, screw insertion unit) via a simple input screen

![](_page_10_Picture_12.jpeg)

Remote service

![](_page_10_Picture_14.jpeg)

### Support at the push of a button

To ensure that everything runs smoothly in your production, our Customer Support experts are available to assist you directly on site or via remote service. The optional portal provides full access to the control system and all networked machine components via an OPC UA interface. You establish the connection by pressing a button on the control panel. This gives you full control at all times.

	RM 30K	RM 40K	RM 40KS	RM 40P	RM S
Stroke rate	ssteplessly from 5 to max. 350 1/min.	steplessly from 5 to max. 350 1/min	steplessly from 5 to max. 350 1/min.	steplessly from 5 to max. 350 1/min.	steplessly from 5 to max. 600 1/min.
Processing length	900 mm	900 mm	900 mm	1.400 mm	900 mm
Press	nominal stamping force 90 kN,	nominal stamping force 90 kN	nominal stamping force 150 kN	nominal stamping force 200 kN	nominal stamping force 150 kN
	stroke 12 mm	stroke 12 mm	stroke 12 mm	stroke 12 mm	stroke 8 mm
Slide units	nominal bending force max. 40 kN,	nominal bending force max. 60 kN	nominal bending force max. 60 kN	nominal bending force max. 60 kN	nominal bending force max. 30 kN
	stroke max. 40 mm	stroke max. 40 mm	stroke max. 50 mm	stroke max. 50 mm	stroke max. 25 mm
Central mandrels	max. 3 central mandrels	max. 3 central mandrels	max. 3 central mandrels	max. 3 central mandrels	max. 3 central mandrels
	nominal force max. 20 kN	nominal force max. 15 kN	nominal force max. 15 kN	nominal force max. 15 kN	nominal force max. 15 kN
	stroke max. 45 mm	stroke max. 45 mm	stroke max. 45 mm	stroke max. 45 mm	stroke max. 45 mm
	NC central mandrels (as option)	NC central mandrels (as option)	NC central mandrels (as option)	NC central mandrels (as option)	as option NC central mandrels
Feed length	mech. feed: max. 240 mm	mech. feed: max. 240 mm	mech. feed: max. 240 mm	mech. feed: max. 240 mm	mech. feed: max. 240 mm
	with feed time reduction	with feed time reduction	with feed time reduction	with feed time reduction	with feed time reduction
	NC feed: any (as option)	NC feed: any (as option)	NC feed: any (as option)	NC feed: any (as option)	NC feed: any (as option)
Material	strip thickness: max. 4 mm	strip thickness: max. 4 mm	strip thickness: max. 4 mm	strip thickness: max. 4 mm	strip thickness: max. 4 mm
	strip width max. 60 mm	strip width max. 60 mm	strip width max. 60 mm	strip width max. 60 mm	strip width max. 60 mm
	wire Ø: max. 4 mm	wire Ø: max. 4 mm	wire Ø: max. 4 mm	wire Ø: max. 4 mm	wire Ø: max. 4 mm
	(depending on material and process)	(depending on material and process)	(depending on material and process)	(depending on material and process)	(depending on material and process)
Dimensions	width 2,020 mm	width 2,020 mm	width 2,590 mm	width 3,090 mm	width 2,590 mm
	depth 1,330 mm	depth 1,330 mm	depth 2,100 mm	depth 2,026 mm	depth 2,100 mm
	height 2,030 mm	height 2,030 mm	height 2,450 mm	height 2,320 mm	height 2,450 mm
Weight	approx. 2,000 kg (without tooling)	approx. 2,000 kg (without tooling)	approx. 3,160 kg (without tooling)	approx. 3,900 kg (without tooling)	approx. 3,160 kg (without tooling)

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